THE

AMERICAN GAS-LIGHT JOURNAL

DEVOTED TO

LIGHT, HEAT, WATER-SUPPLY, AND SEWERAGE.

Iron Buildings, Nos. 254 & 256 Canal Street, East, near Broadway, New York.

VOL. II.—No. 21. NEW-YORK, THURSDAY, NOVEMBER 1, 1860. $3 PER ANNUM.

CORNELIUS & BAKER,

MANUFACTURERS OF

Lamps, Chandeliers, Gas-Fixtures, &c.,

MANUFACTORIES,

821 Cherry-St., and Fifth-St. and Columbia Avenue.

STORE, 710 CHESTNUT STREET,

PHILADELPHIA.

MITCHELL, VANCE & CO.,

MANUFACTURERS OF

CHANDELIERS,

AND EVERY DESCRIPTION OF GAS-FIXTURES.

WAREHOUSE, No. 620 BROADWAY,

MANUFACTORY, 335, 337, 339, 343 WEST 24th ST.,

NEW YORK.

PARIS'S PATENT

GLASS-ENAMELLED WROUGHT IRON TUBES.

PROSSER'S PATENT

LAP-WELDED IRON BOILER TUBES

TUBES FOR ARTESIAN WELLS, CONVEYING STEAM OR WATER, SHAFTING, &C., SCREWED OR COUPLED TOGETHER, IN VARIOUS WAYS.

THOS. PROSSER & SON, 28 Platt-st. N. Y

OLEOMETER, OR HYDROMETER. For Kerosene, Coal Oils, Petroleum and other Distilled Oils. Scale by Dr. Gesner. Manufactured and sold by G. Tagliabue, 298 Pearl street, New York. The specific gravity for every degree of his hydrometer has been carefully taken, and the instrument adapted to the above oils. A table of specific gravities, compared with Baume's scale, a Thermometer and Test-Glass, accompany this new instrument, put up in a neat case—price $5—and it will be found of great importance to manufacturers, and dealers in all coal and petroleum oils.

G. TAGLIABUE, 298 Pearl-st., New York.

OFFICE OF THE NEW-YORK GAS-LIGHT CO., October 25, 1860.—The President and Directors have this day declared a Semi-Annual Dividend of FIVE PER CENT. on the Capital Stock of this Company, and an extra Dividend of EIGHT DOLLARS PER SHARE, payable to the Stockholders on and after THURSDAY, 1st November. The Transfer Books will be closed until that date. By order, C. L. EVERITT, Sec'y.

A SERVICE MAN WANTED.—One capable of taking charge of laying Service Pipes, making Connections, and Setting Gas-Meters. Address, with references, SUPERINTENDENT, at Rooms of AMERICAN GAS-LIGHT JOURNAL, 254 Canal street, New-York.

A NEW AND SUCCESSFUL GAS-WORKS, in the State of New York, FOR SALE. It paid Eight per cent. in the first six months. Address, for further particulars,

G. P. GERARD,

at Rooms of AMERICAN GAS-LIGHT JOURNAL, 254 Canal street, New-York.

A COMPETENT GAS-ENGINEER wishes a situation in a Gas-Works.

Address ENGINEER,

Rooms of AMERICAN GAS-LIGHT JOURNAL.

AN INTELLIGENT, Energetic man, can find permanent and profitable employment, in introducing a new Patent of great value, by addressing G. M. B., at the Rooms of the AMERICAN GAS-LIGHT JOURNAL, No. 254 Canal street.

WANTED.—The Subscriber, a Practical Gas Man, of many years' experience, wishes a situation to control or work a small Gas Works; is a practical Retort Setter, Pipe Layer; understands the various departments of Gas-Lighting and would assist in the erection of Gas-Works. Unexceptionable references. Apply to W. H. C., at the Rooms of the AMERICAN GAS-LIGHT JOURNAL.

GAS-CANNEL COAL,

AND

APPARATUS,

SUPPLIED BY EMANUEL TURNER & CO.,

Export Offices, 34 Castle-st., Liverpool.

See Advertisements in Vol. 1, of AMERICAN GAS-LIGHT JOURNAL.

HORATIO EAGLE,

MANUFACTURERS' AGENT FOR THE SALE OF

GAS-APPARATUS

AND

RETORT-HOUSE SUPPLIES,

No. 126 MAIDEN LANE,

BETWEEN PEARL AND WATER STREETS, NEW-YORK.

TO GAS COMPANIES AND CONTRACTORS.—For Sale: Two sets Dry Lime Purifiers, 14 feet by 12 feet, 5 tiers of plates, 12 inch connections; and one set Purifiers, 10 feet by 5 feet, 5 tiers of plate, 8 inch connections. A Station Meter, (square case) 8 feet front, 8 feet deep, and 7 feet high; register a 250,000 feet per diem. Also a quantity of Bench Castings, consisting of Sections of Hydraulic main, (D shaped pattern,) Stand, Bridge and Dip Pipes, together with a number of Composition-faced Slide Valves, various sizes, from 6 inches to16 inches diameter.

Address the ENGINEER OF THE MANHATTAN GAS-LIGHT COMPANY, Foot of 18th-st., N. R., New-York

TO GAS AND WATER COMPANIES:

The undersigned, Agent for Messrs. Thomas Edington & Sons, Phenix Foundry, Glasgow, Scotland, Is prepared to contract for all descriptions of Cast-iron Pipes of their manufacture.

About 6000 tons of these Pipes have lately been supplied to the Brooklyn Water-works, N. Y., and the Chief Engineer of the Works, A. P. Kirkwood, Esq., is ready to testify to their excellent quality.

ARCH'LD BAXTER, 90 Broad st, N. Y.

Sole Agent For the United States and Canada.

IN THE PRESS.—By Messrs. Balliere Brothers, Publishers, New-York, and H. BALLIERE, Regent-st, London.

A Practical Treatise on COAL-OIL AND PETROLEUM. By A. Gesner, M. D., Consulting Chemist.

Dr. Gesner is known as the author of several works on Geology and Chemistry.

WOODEN TRAYS FOR GAS-PURIFIERS.—JOHN L. CHEESMAN, No. 147 Avenue C, near Tenth street, New-York, manufactures his Patent WOODEN TRAYS for GAS-PURIFIERS, *cut out of the solid wood*, being superior to the ordinary iron plates, far cheaper and more durable. The attention of Gas Companies and Engineers is called to this improvement, which has been adopted by the following Gas-Works:

Albany, N. Y., Manhattan, N. Y. City,
Chicago, Ill., Morrisania, N. Y.,
Williamsb'gh, N.Y., Worcester, Mass.

MORRIS, TASKER & CO.,

PASCAL IRON WORKS,

[ESTABLISHED 1821]

PHILADELPHIA, manufacture Wrought Iron Welded Tubes for Gas, Steam or Water; Lap Welded Boiler Flues,

GALVANIZED WROUGHT IRON TUBES,

ARTESIAN WELL PIPES,

of Wrought or Cast Iron, screwed together, flush inside and out; Gas-works Castings, Retorts and Bench Castings for Coal gas works; Cast Iron Street Mains, Sends, Branches, Drips, &c.

GAS AND STEAM FITTERS' TOOLS, &C.

STEPHEN MORRIS, CHAS. WHEELER,
THOMAS S. TASKER, STEPHEN P. M. TASKER

TO INVENTORS.—Patent Agency of the AMERICAN GAS-LIGHT JOURNAL.—The Proprietor of the AMERICAN GAS-LIGHT JOURNAL, is happy to announce that a

PATENT DEPARTMENT

Is now connected with these ROOMS, under the charge of

MR. F. C. TREADWELL, JR.,

Well known as one of the most prompt, reliable, and able Patent Agents and Experts in the United States.

Patents taken out in this Country, and in GREAT BRITAIN, FRANCE, BELGIUM, and All other Countries where Patent Laws are in force.

Re-Issues, Rejected Applications, Interference Cases, attended to with the utmost personal care, and with Mr. TREADWELL'S long experience, the interests of Patentees will be unsually secure.

Inventors are cordially invited to visit the ROOMS of the AMERICAN GAS-LIGHT JOURNAL, Iron Buildings, Nos. 254 and 256 Canal street, East, near Broadway, New York.

INVENTORS' DEPOT & SALES Room for Patent Rights.—Parties desirous of placing with us valuable Patents, for the sale of Rights, on commission, will here find the Head-Quarters for Inventors and their Patents, as well as for parties seeking investments in articles of undoubted merit. The public are invited to call, or send for Circulars. New articles coming in daily. BUTLER, HOSFORD & CO.,

No. 30 Broadway, N. Y., Proprietors of the Paragon Self-Generating Gas-Light.

CANNEL AND ORREL GAS-COAL.—The Subscribers are constantly receiving direct, from the celebrated mines of WILLIAM H. BRANKER & CO., NEWCASTLE, ENG., COAL of the very first quality for gas purposes, which they will sell direct from ship or from yard at the lowest market price; and we guarantee the coal to be equal if not superior to any other coal brought to this market.

CORNELIUS BAKER & SON,

61 Leonard st. and 652 Hudson st., New York.

S. V. MERRICK, J. VAUGHAN MERRICK,
W. H. MERRICK.

SOUTHWARK FOUNDRY,

Philadelphia.

MERRICK & SONS, Engineers, manufacturers of every description of Gas Machinery.

Retorts, Bench Castings, Condensers, Washers, Scrubbers, Wet or Dry Lime Purifiers, Coke Wagons, Fire Tools, Wrought Iron Grate Bars, Gasholders, either TELESCOPIC OR SINGLE, WITH SUSPENSION FRAMES COMPLETE; Wrought Iron Roof Frames, for Iron or Slate; Stop Cocks, Exhausters, Steam Pumps, Boilers and Tanks, Steam or Hand Air Pumps for proving Street Mains, Centre Seals, Governors, Wrought or Cast-Iron Lime Sieves for Purifiers, Purifier Hoisting Machines, &c., &c.

Address— MERRICK & SONS,

5th and Washington Streets, Philadelphia.

E. V. HAUGHWOUT & CO.,

488, 490, & 492 BROADWAY,

Cor. of Broome-St., New York,

Gas-Fitters & Contractors for the Erection of Gas-Works.

Messrs. E. V. HAUGHWOUT & Co. have on hand most extensive assortment of the newest and most desirable styles of

CHANDELIERS, BRACKETS, LAMP-POSTS, AND GAS, FIXTURES OF EVERY DESCRIPTION,

to which they would respectfully call the attention of the public.

☞ Gas-fitting done in the most workmanlike manner, and on reasonable terms.

GAS FIXTURES,

BALL, BLACK & CO.,

565 & 567 Broadway,

[illegible] KINGS-STREET, NEW-YORK,

In addition to their large stock of rich Goods, offer for sale a large assortment of CHANDELIERS and GAS FIXTURES, of every description, and of the newest styles, both Foreign and Domestic manufacture.

OFFICIAL.

NOTICE.—**Supply of Water for the CITY OF ROCHESTER**—In pursuance of a Resolution of the Common Council, notice is hereby given, that Sealed Proposals will be received by the undersigned, at the City Clerk's Office, until noon of Tuesday, the Fourth day of December next, for furnishing a supply of Water from Hemlock Lake, for the following purposes:

For not less than four hundred Fire Hydrants.

For the City Hall, not less than ten fountains for the Parks and Public Squares, and for not less than twenty Public Schools.

For the Hospitals and Public Markets.

According to the plan No. 4 or 5 of the Report of Daniel Marsh.

Proposals should be for a sum certain, as to the price to be paid annually by the city for the proposed supply, and should contain a full and explicit specification of the work, in all its parts and details, relative to kinds and qualities of the materials to be used, and the extent, size and strength of all portions of the work.

Fire Hydrants of an approved form and character, should be specified in the proposals.

A guarantee, with an approved bond, will be required that the works will be of such approved character as to ensure a constant supply of water to the city.

The city of Rochester will incur no expense or responsibility for the right of way, or on account of the waters to be appropriated and used, beyond the sum stipulated to be paid annually for the proposed supply of water.

No transfer of any constract or claim arising from proposals for a supply of water, will be recognized or allowed.

The contracting party will be required to give ample security that the work shall be commenced by the first day of May, 1861, and completed by the first day of October, 1862.

☞ The Common Council reserve the right to contract with such parties as will best serve the interests of the city.

☞ Copies of the Report of Daniel Marsh, referred to above, may be found at the office of this paper.

Communications may be addressed to Daniel Marsh, Esq., or the Chairman of the Committee.

GEO. SHELTON,
E. N. BUELL, } Committee.
P. BARRY.

F. S. HEW, Clerk.

Rochester, N. Y., October 20, 1860.

J. H. BRUNDAGE & CO.,

38 BURLING SLIP, NEW YORK, DEALERS IN

ROSINS ADAPTED ESPECIALLY TO GASMAKERS' USE.

N. B.—J. H. B. & CO. ARE CONSTANTLY PURCHASERS OF ROSIN-GAS TAR.

MEDALS AWARDED TO THOMAS GLOVER'S PATENT DRY GAS-METERS.

MANUFACTORIES

SUFFOLK ST. CLERKENWELL GREEN. & ALLEN ST. COSWELL ST. LONDON.

THOMAS GLOVER introduced his PATENT DRY GAS METERS into the United States and Canadas in 1846, and since that time he has received extensive patronage from many Gas Companies of those countries as well as from this. Thomas Glover confines his sole attention to the business of Gas-Meter making. The propriety of his doing so is satisfactorily proved by his success. For example: one London Company has now in use above 12,500 of his Patent Dry Gas-Meters, and some of these Meters have been fixed for fourteen years and are still in working order, without complaint from either the company or the consumer.

THOMAS GLOVER thinks it necessary to put Gas Companies on their guard against parties selling Patent Dry Gas-Meters constructed in imitation of his, but unskilfully made on erroneous principles, and with improper and unsuitable materials.

THOMAS GLOVER'S Workshops are now the most extensive in this or any other country, and he is thereby enabled promptly to execute orders to any extent required. Purchasers may, at any time, inspect his Works and the materials of which his Meters are constructed.

Suffolk Street, Clerkenwell, London, and 1 Barrett Street, Fulton Street, Boston.

SAMUEL DOWN,

Nos. 340, 342, 344 and 346 West Twenty-second Street, North River, NEW YORK CITY,

MANUFACTURER OF

WET AND DRY PATENT GAS METERS,

...sure-Registers, Pressure Indicators and Gauges, Station, Show, Customer, and Experimental Gas-Meters, Centre or Hydraulic Valves Governors, Compensators for Exhausters, and the Standard Testing Gas-Holders* for Proving Meters, now used in the State of New York in compliance with an Act of the Legislature. Also, Bunsen's Photometer, with complete Apparatus for working the same.

*The standard of measurement of this Gas-Holder is given by Professors TORREY, of the U. S. Assay Office; JOY, of Columbia College; GIBBS, of the Free Academy and several other distinguished scientific gentlemen.

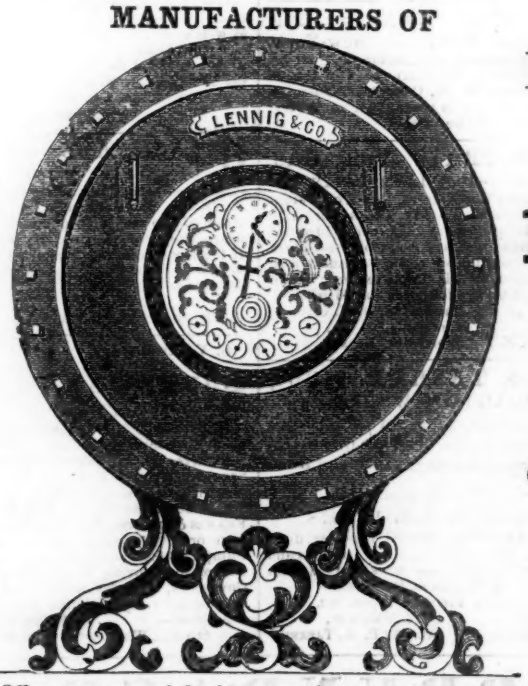
JOSEPH LENNIG & CO.,

Nos. 313 and 315 NEW MARKET STREET, above Vine Street,

PHILADELPHIA, PENN.,

MANUFACTURERS OF

WET AND DRY PATENT **GAS-METERS,** **STATION, SHOW, CUSTOMER,** AND EXPERIMENTAL **METERS,**



PHOTOMETERS, PRESSURE REGISTERS, **INDICATORS,** AND GUAGES, **GOVERNORS, METER PROVERS, CENTRE SEALS,** FLUID GUAGES, &c.

The flattering Testimonials we are receiving from Gas Officers, accompanied with expressions of such general satisfaction, and the fact of a tried experience for fourteen years, must present itself as a security to parties desirous of securing the most reliable Instruments. We therefore recommend our Patent Dry Gas-Meter, believing it superior to any Meter manufactured. Messrs. J. LENNIG & Co. confine their sole attention to the business of GAS-METER making.

Our materials are the best in use; the strictest attention is given to workmanship, and we guarantee entire satisfaction to all purchasers.

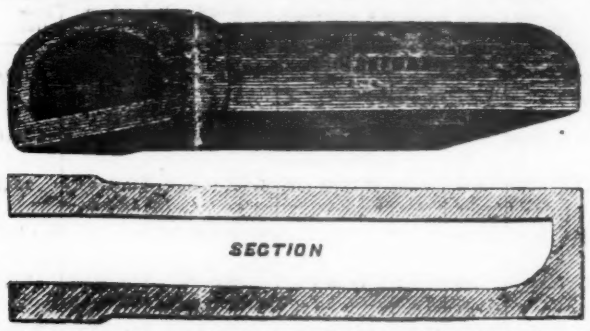
Purchasers may at any time inspect our Works, and the materials of which our Meters are manufactured. We are fully prepared to execute all orders, upon the shortest notice, and it will be to the interest of parties to call upon us.

Each Meter Tested Separately by a Sworn Inspector, and Sealed when desired.

METERS REPAIRED AND FORWARDED WITH DISPATCH.

KING BROTHERS,

STOURBRIDGE, ENGLAND, FIRE-BRICK AND RETORT WORKS.



KING BROTHERS beg especially to call the attention of Gas Companies to the superiority of their Retorts, which are made from the celebrated STOURBRIDGE FIRE-CLAY. Mr. King has patented a Kiln for Burning Retorts, by which Patent all Cold Air is excluded from the Kiln while burning, thus rendering them

FREE FROM CRACKS AND CORRECT IN FORM.

By great care in Manufacturing, combined with the advantages in burning, a VERY SMOOTH SURFACE is obtained, rendering them less liable to carbonize

RETORT OVENS, FIRE-BRICKS, GUARDS, SADDLES, RABBITTED BURS, FLUES, AND QUARRIES, ARE ALL MANUFACTURED OF THE SAME QUALITY OF CLAY.

EVERY RETORT AND BRICK IS BRANDED "KING BROTHERS, STOURBRIDGE."

GEORGE WRIGHT & CO.'S

LIVERPOOL AND NEWCASTLE CANNEL AND COAL

FOR GAS MANUFACTURE AND HOUSE USE.

THE undersigned does not submit for comparison the result of chemical analysis, as this plan is too often adopted to promote the sale of inferior or worthless coals that in practice bear no particle of resemblance to their theoretical, and sometimes distorted descriptions.

He is authorized, however, to guarantee the *careful shipment of the best qualities of Cannel and Coal, at the lowest rates of Invoice and Freight offered at time of engagement;* and any losses sustained by short weight, or the neglect of the conditions mentioned, will be promptly and cheerfully repaired.

OFFICE OF THE MANHATTAN GAS-LIGHT COMPANY,
New-York, October 8th, 1859.

Messrs. GEORGE WRIGHT & Co., Liverpool:

Gentlemen,—For many years you have acted as agents for this company, purchasing for, and forwarding to them, coals, retorts, and other gas apparatus.

Your experience, ability and sterling integrity, entitle you to and have secured our confidence, and we cheerfully recommend your house to all gas companies desiring the services of an agent in England. My own personal knowledge of the superior quality of the coals within your control, and my acquaintance with the manufacturers of such articles as can be advantageously procured by you in England for gas companies abroad, added to my high regard for you personally, induce me to write this letter, and express the hope that you may be able to extend your business in this country, not only for your own advantage, but also for the benefit of those who may confide in you as securely as we have done.

I am, gentlemen, your very obedient servant,

CHARLES ROOME, *President.*

T. W. PARMELE, Agent,
No. 4 Irving Place, New-York,

GAS-EXHAUSTERS,

GOVERNORS, FURNACE DOORS,

RETORT-COVERS, CASTINGS,

IMPLEMENTS,

PHOTOMETRICAL AND METER-PROVING APPARATUS.

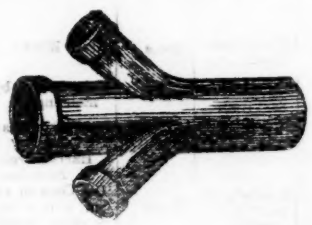
HARRIS & PEARSON,

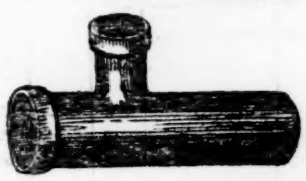
PROPRIETORS OF

BEST GLASS-HOUSE POT, AND CRUCIBLE CLAY.

Manufacturers of Fire-Bricks, Gas-Retorts, and Glass-House Furnace-Bricks of every description.

PAMBLECOTE FIRE-CLAY AND BRICK WORKS, STOURBRIDGE, ENGLAND.

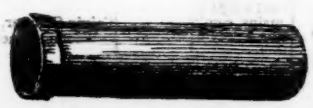




GAS, STEAM, SMOKE, PURE WATER AND SOIL PIPE,

CLAY RETORTS, TILES, BRICKS,

AND EVERY VARIETY OF FIRE GOODS.



JOSEPH CLIFF,

WORTLEY FIRE-BRICK WORKS,

Near Leeds, England.

T. W. PARMELE, Agent, No. 4 Irving Place, New York.

WATER-WORKS OF THE UNITED STATES AND BRITISH-NORTH-AMERICAN POSSESSIONS.

COMPILED FROM OFFICIAL SOURCES EXPRESSLY FOR THE AMERICAN GAS-LIGHT JOURNAL.

No.	Town.	State.	Built.	City or Priv'e Works	Cost. Dollars.	Revenue 1859.	Expenses proper, 1859.	Population.	Buildings supplied.	Charge to Private Dwellings.	Source of Supply.	Distance from Town.	Capacity of Reservoir, Gallons.	Average Daily delivery, Gallons.	Head of Wat'r Feet.	Length and kind of Pipe.	Water Meters.	Remarks.
1	Albany	N. Y.	1851	C.	921,892	78,499 00	17,693 70	70,000	5,500	$4 @ $16	Patroon's Creek.	4 miles.	210,000,000	5,000,000	246	46½ miles iron, 3 @ 26 inch.	None.	Water brought to city in brick conduits.
2	Allegheny	Pa.	1859	C.	380,000	42,000 00	6,500 00	30,000		$1,25 ₱ room.	Allegheny River.	½ mile.	6,500,000	800,000	190	3 miles, iron 2 @ 4 inch.	None.	
3	Altoona	Pa.	1859	P.	25,600			5,000	86	$3,75 @ $16	Mountain Spring	In town.	220,000	21,000	72	15, feet cast iron pipe.	None.	Robt. Beacham, Supt.
4	Augusta	Geo.	1860	C.	172,000	Being bui	lt.	20,000			Savannah River, via Augusta Canal.		Not built.	Estimated 1,000,000	100	13 miles ir'n	None.	Wm. Phillips, Eng.
5	Avon	N. Y.	1857	C.	8,000	400 00	None.	3,000	7	$5 @ $8.	Springs.	2¼ miles.	100,000	Unknown.	150	Iron & cem't	None.	Wm. Cushing, Treas
6	Baltimore	Md.	1860		3,000,000	200,000 00	9,221 22	250,000	16,000	$6 upward	Jones' Falls.	7 miles.	500,000,000	7,000,000	220	2 miles brick	9	These works will not be completed until 1861.
7	Bethlehem	Pa.																
8	Boston	Mass.	1846–51	C.	5,500,000	316,290 97	29,088 27	178,000	23,271	$6 @ $10. Hotels $3 ₱ bed	Lake Cochichuate 684 acres.	5 miles.	89,909,720	13,175,000	124·6	130 mil's brick conduit and 37,454 ft. iron pipe 4@40 in	Worthington's very good.	J. H. Wilkins, Pres. J. Slade, City Eng.
9	Bridgeport	Ct.	1856	P.	100,000	9,000 00		14,000	600	$5 upward	Springs & pond.	2 miles.	Don't	know.	115	18 miles iron 3@20 in.	None.	J. Richardson, Pres. H. Edwards. Supt.
10	Brooklyn	N. Y.	1856–60	C.	5,000,000			260,000	8,050	$8 @ $18	Brooks south side Long Island.	5@12 mil's	32 acres. 170,000,000	3,000,000 Capable of delivering 20,000,000	170	170 miles, cast iron.	None, testing several.	J. P. Kirkwood, Eng.
11	Buffalo	N. Y.	1851	P.	552,000			60,000	2,000	$5 @ 26	Niagara River.	2500 feet	15,550,000	2,500,000		Cast ir'n pipe	None.	
12	Burlington	Vt.	1859	P.	21,000			400 ho's	125	$4 @ 10	Springs.	500 feet	125,000	15,000			None.	
13	Cambridge	Mass.	1855	P.	300,000	12,000 00	4,000 00	30,000	1,500	$6 @ $20	Fresh Pond.	2700 feet	2,500,000	900,000	70	12in ir'n pipe	Worthington's very good.	Water pumped into Reservoir by Worthington's Pump.
14	Camden	N. J.	1846–55	P.	150,000			15,000	1,200	According to rent of house.	Delaware River.	2 miles	5,000,000	500,000			None.	Use Cornish pump. H. Allen, Treas.
15	Canton	O.									Myers Lake.	2 miles.						
16	Charlestown	Mass.	Estima	ted.	400,000	Works pr	ojected.	25,000	2,200		Mystic Pond.	4½ miles.		15,000,000	145		None.	
17	Chicago	Ill.	1852–54	C.	1,000,000	123,600 00	108,809 00	100,000	9,000	$5, upward.	Lake Michigan.	Have three elevated tanks in city.	1,500,000	4,000,000	40&80	85 miles, 4 & 12 in. cast iron.	Are applying Worthington's Meters.	Water pumped from lake into tanks. A. W. Tinkham, Sec.
18	Cincinnati	O.	1818–37	C.	2,359,500	180,000 00		200,000	12,000	13c. ₱ 1000 gal. by meter.	Ohio River.	1000 feet	5,000,600	6,000,000	120	74 miles, 4@ 20 in. iron pipe.	Use Worthington's and Phillips' very accurate.	Survey being made for additional supply fm Big Miami River. R. C. Phillips, Supt. Geo. Shields, Eng.
19	Cleveland	O.	1854–56	C.	526,000	13,824 89	8,623 63	50,000	1,200	$5 upw'rd, Hotels $1 ₱ room.	Lake Erie.	1 mile	6,000,000	800,000	40 to 150	22·56 miles iron and cement pipes.	None.	Jos. Singer, Supt. I. R. Scowden, Eng. Use Worthington's pump, elevating water with 2 Cornish engines, each 200 horse power.
20	Cohoes	N. Y.	1858	C.	60,000	6,000 00	1,000 00	10,000	400	$5, upward.	Mohawk River.	½ mile.	3,000,000	200,000	160	5 mil's 2@10 in. iron & cement.	None.	C. H. Adams, Pres. F. W. Upham, Supt.
21	Columbus	Geo.	Water	Works	are proje	cted here.												
22	Covington	Ky.	Agitati	ng the	matter,	will proba	bly get s	upply f	rom C	incinnati, O.,	across the river.							
23	Danbury	Ct.		C.	Works	just com	menced.											
24	Detroit	Mich.		C.	600,000	48,779 00	13,097 00	70,000	8,470		Detroit River.	1½ miles	10,000,000	2,142,744		38 miles iron pipe 22 miles wooden logs.	None.	Jacob Houghton, Jr., Supt.
25	Easton	Pa.																
26	Elizabeth	N. J.	1855–56	P.	100,000			14,000			Elizabethto'n Lke	1500 feet	6,000,000	500,000	62	7 miles, 4@10 in cement pip	None.	Water raised by d'ble acting pump, 4 ft. stroke, 12 in. bore, 100,000 gall. ₱ ho'r, with 200 ℔. coal. G. W. Harris, Supt.
27	Elmira	N. Y.		P.	35,000	Being bui	lt.				Carr's Creek and Little Lake.	1¼ miles.	7,000,000	400,000	80	10 in. wood'n pipe to reservoir.	None.	Simeon Benjamin, Prest.
28	Fayetteville	N. C.	1859	P.	26,500			2,500	200	$25. Hotels $5	Springs.	100 feet		30 gall. ₱ min leaves Reservoir.	33·6			Works dilapidated, good opening for new works, at cheap cost and large profit
29	Fredbrick City	Md.	1845	C.	92,000			8,000	700	$6.	Mountain Springs & 2 Artesian wells	4 miles	1,800,000	252,000			None.	Geo. W. Rice, Supt. W. G. Cole, Mayor of City.
30	Geneva	N. Y.																
31	Georgetown	D. C.	1850	C.	35,300	Works no	t comple	ted.			Potomac River.							M. C. Meigs, Capt. U. S. Eng'rs, Supt.
32	Hamilton	C W.																
33	Harrisburgh	Pa.																
34	Hartford	Ct.	1854	C.	410,000	26,000 00	8,500 00	30,000	1,936	$5, upward.	Connectic't River	Forced 1¼ miles into reservoir.	8,000	785,000	125	26 miles, cast iron.	None.	Hiram Bissell, Pres.
35	Jersey City	N. J.	1851–4	C.	850,000	69,245 00	18,000 00	30,000	2,900	$7,50, upward	Passaic River.	8 miles.	60 000,000	2,000,000	120	8 miles, 20 in. cast iron.	Worthi'ns	Water raised by Cornish engine.
36	Kingston	C. W.	1849	P.	80,000	10,758 00	4,906 00	15,000	680	$8,00 upward.	Lake Ontario.	Engine power.	300,000	300,000	77	¾ mile, iron	None.	Jas. Wilson, Manager.
37	Lafayette	Ind	Water	Works	are talke	d of here,	and an	enterpr	ising	Yankee might	get the contract							
38	Lockhaven	Pa.	Water	Works	are want	ed here.		4,000	Chart	er was obtaine	d several years	ago.						A. Harris, Pres. T. R. Scowden, Eng
39	Louisville	Ky.	1860	C.	820,000	Works no	t compl'd	80,000	None	20c ₱ 1000 gal by meter.	Ohio River.	¾ of mile	10,000,000	Capable of 12,000,000		30 in ir'n pip sunk 4 ft in ground.	None.	Use Cornish engine 9in. pump, has been working night and day for 30 years.
40	Lynchburg	Va.	1829	C.	50,000	3,500 00	2,000 00	12,000	298	$15.	James River and Kanawha Canal.	1,000 ft.	400,000	300,000	240	15,000 ft, ir'n	None.	F. S. Miller, Supt.
41	Malone	N. Y.	1857	P.	12,000			3,000	300	$7 @ $10	Rock Spring.	¾ of mile	Not complete	Can't tell.	145	6 mil's 2@4 in mains, cem't pipe & galv'd iron.	None.	Calvin Skinner, Supt. Wooden aqueduct.

WATER-WORKS OF THE UNITED STATES AND BRITISH-NORTH-AMERICAN POSSESSIONS.

COMPILED FROM OFFICIAL SOURCES EXPRESSLY FOR THE AMERICAN GAS-LIGHT JOURNAL.

No.	Town.	State.	Built.	City or Priv'e Wor's	Cost. Dollars.	Revenue 1859.	Expenses proper, 1859.	Population.	Buildings supplied.	Charge to Private Dwellings.	Source of Supply	Distance from Town.	Capacity of Reservoir, Gallons.	Average Daily Delivery, Gallons.	Head of Wa'r Feet.	Length and kind of Pipe.	Water Meters.	Remarks.
42	Massilon.....	O.	1854	P.	75,000	3,000 00	150 00	3,000	40	$5, upward.	Sippo Lake.	4 miles	1,275,000	Can't tell.	80	3 miles cem't	None.	J. H. Brown, Sec. J. E. M'Lain, Supt. & Treas.
43	Memphis.....	Tenn.	Water	Works	about	being bu	ilt here,	by Albe	rt Stei	n.								
44	Mobile.....	Ala.	1831–42	C.	300,000	32,500 00	10,200 00	30,000	1,500	$15, upward.	Three Mile Creek.	5 miles	1,250,000	250,000	25	16 miles. Cast ir'n pipe	None.	Albert Stein, builder & Lessee.
45	Montgomery.....	Ala.	An act	has pa	ssed the	Legislatu	re for the	constr	uction	of water work	s in this city.							
46	Montreal.....	C. E.	1853–56	C.				71,500	7,888		River St. Lawr'ce	7½ miles	15,000,000	3,500,000			Kennedy' & Worth-ington's.	E. Demers, City Trea.
47	Nashua.....	N. H.	1854–56	P.	72,000	8 ₱ ct nett	on capit'l	10,000	800	$3 @ 15	Pennichuck Brook	1 mile	4,000,000	300,000	130	2@4 in. cast iron pipe.	None.	E. P. Emerson, Treas. Use Bibb stop-cocks from Sterry Faucet Co., Norwich, Ct.
48	Nashville.....	Tenn.																
49	New Albany....	Ind.	1856	P.	3,600			3,000	100	$5	Ohio River.,	300 yards	200	14,000	200	10 miles cement pipe.	None.	Wm. Carson, Prop'r.
50	Newark.....	N. J.																
51	New Britain	Ct.	1857–58	C.	50,000	2,500 00		5,000	200	$2 @ 3	Shuttle Meadow Lake.	2 miles	2,700,000	200,000			None.	A. Chamberlain, Eng. F. T. Stanley, Com.
52	New Haven.... .	Ct.	Water	works	are abou	t being in	troduced	here.										
53	New Orleans....	La.	1835	P.	1,400,000		25,000 00	200,000	8,000	$15, upward.	Mississippi River.	In city.		6,000,000	100	56 miles, iron	None.	S. L. Percy, Sec.
54	Newport.....	Ky.	Same	as Co	vington,	Ky.												
55	New York	N. Y.	1837–42	C.	23,500,000	759,250 00	75,000 00	900,000	50,000	$10, upward.	Croton River.	44 miles.	35 acres. 175,000,000	30,000,000	115	267 miles, 4 to 48in. i'rn pipe.	None. Testing Amer'n & Eng'sh	A. W. Craven, Chief Eng'r.
56	Norristown.....	Pa.	1847–55	P.	50,000			6,500	988	$3 @ 7	Schuylkill River		10,000,000	115,000		Cast ir'n pipe buried.	None.	Divide 8 ₱ cent. and pass $15,000 surplus. A. Markley, Supt.
57	Paterson.....	N. J.	1856–7	P.	110,000	8,000 00		20,000			Passaic River.	1000 feet.	3 weeks' supply.		120	12 miles iron pipe 4@14 in	None.	I. D. Horsey, Pres.
58	Petersburg.....	Va.	1857	P.	125,000				300	$5 @ $25	Lieutenant River	½ mile	25,000,000	333,000			None.	
59	Philadelphia....	Pa.	1800–55	C.	3,000,000	551,000 00	200,000	630 000	6,500	$5, upward.	Schuylkill & Delaware Rivers.	In city.	67,000,000	19.600,000	250	306¼ miles, iron pipe.	None.	H. P. M. Birkenbine, Chief Eng.
60	Pittsburg.....	Pa.	1823–42	C.	900,000	69,000 00	22,000 00	60,000	10,103	₱ room.	Allegheny River.	In city.	6,600,000	4,000,000	160	27 miles 4@15 in. iron pipe	None.	James Nelson, Supt.
61	Pittsfield.....	Mass.	1865	C.	50,000			6,000	500	$4 @ 6	Ashley Lake, 85 Acres.	7 miles			700	10 miles iron pipe	None.	E. H. Kellogg, T. F. Plunkett and Jno E. Dodge, Commiss'rs. Jos. Lyman, Eng'r.
62	Plymouth..... ...	Mass.	1855	C.	84,000	3,700 00	350 00	4,500	450	$4 @ $8	South Pond, 400 Acres.	3½ miles	1,600,000	70,000	90	Cement pipe	None.	Charles O. Churchill, and Jas. Cox, Com's C. O. Churchill, Sup.
63	Portland.	Me.	Water	works	are being	projected,	and will	probabl	y be b	uilt within a y	ear.							
64	Quebec..... ...	C. E.	1850	C.	1,400,000	48,000 00		50,000	3,900	10 ₱ ct. of assessed value.	River St. Charles	8 miles.	No Reser'r	3,000,000		Cast iron 4@18 in. pipe.	None.	W. W. Shordiche, Manager.
65	Richmond.	Va.	1831	C.	654,079	32,000 00	18,300 00	46,000	2,600	$5, upward.	James River.	2½ miles.	10,000,000 Earth res.	2,000,000	190	31 miles 1½@ 4 in. iron.	None.	J. L. Davis, Supt.
66	Rochester	N. Y.		C.	550,000	Works pr	ojected.				Hemlock Lake.	14 miles		2,000,000	100	54 miles, ir'n	None.	Dan'l Marsh, Eng.
67	Rockland.....	Me.	1851	P.	75,000	4,500 0		4,000	750	$6, Stores $4	L. Chickawukee.	2½ miles	5,000	12,000	90	20 miles iron & cem't pipe	None.	W. A. Farnsworth, Pres., M. Sumner, Treas. & Sec.
68	Sacramento.	Cal.																
69	Saint John.....	N. B.	1838	C.	400,000	28,000 00	4,000 00	30,000	1,100	$8 @ $24.	Little River.	6 miles.		5,500,000		30 miles iron	None.	J. Sears, City Comm'. G. Murdoch, Eng. & Supt.
70	Saint Johns.....	N. F.	1860	C.	300,000	Being	built.											
71	Saint Louis.....	Mo.																
72	San Francisco...	Cal.																
73	Saratoga Springs	N. Y.		C.	20,000	2,500 00	1,500 00	8,000	327	$3, upward.	Greenfield str'm	3 miles.	37,200,000	6,000	80	3 miles, iron	None.	Elisha Isabel, Supt.
74	Savannah.....	Geo.	1854	C.	15,000	6,240 58		25,000	600	$5 @ $20	Savannah River.	300 feet	115,000	500,000		15 miles, iron	None.	R. D. Guerard, Supt.
75	Scranton.....	Pa.	1857–58	P.	50,000	3,000 00		6,000		$5 @ 8	Lackawan'a Riv'r	¼ mile	2,200,000		100	Rip rap cond't sheet ir'n pip cem'nt inside & out.	None.	R. D. Guerard, Supt.
76	Sing Sing.....	N. Y.	1851	P.	4,000			4,000	50	$5 @ 15	Undergr'nd Sp'gs	Close by	1,500,000	50,000	80			Reub. Quimby, Pres.
77	Springfield.....	Mass.																
78	Syracuse.	N. Y.																
79	Tamaqua.....	Pa.	1852–53	C.	40,000			4,000	400	$4, Stores 10 Eng's $2,25 ₱ horse power.	Rabbit Run Str'm	No Reser'r	Dam 280 ft long, 8 deep 1¼ acres.			3 miles 6 in. iron pipe.	None.	Wm. P. Bishop, Supt.
80	Toronto..... ..	C. W.																
81	Trenton.	N. J.																
82	Troy.....	N. Y.	1832	C.	216,000	18,000 00	4,000 00	40,000		$5,50	Springs & Creek.	5 miles.	1,000,000	1,500,000	70	Rep't illeg'le	None.	E. H. Chapin, Supt.
83	Utica.....	N. Y.	1849		85,000			25,000	500	$4·40 @ 11	Springs at Starch Factory Creek	4 miles	40,000,000	300,000			None.	
84	Washington.	D. C.	1860	C.	2,500,000	Works not	completd	80,000		5c. ₱ ft. front for 4 yrs., after that to be free.	Potomac River at Great Falls.	8 miles	170,000,000	70,000,000	145	16½ miles 4 & 6 in c'st iron & cem't pip.	None.	M. C. Meigs, Capt. U.S. Eng'rs, Supt., H. C. Benham, Capt. U. S. Eng'rs, Chief Eng. Aqu'ct belongs to U. S. Distrib'n pipes to cities of Washington & Georgetown, D. C.
85	Watertown.....	N. Y.	1854	C	60,000				650	$3 @ $10.	Black River.	1¼ miles	3,000,000		200	Cement pipe		Elam Holcomb, Supt.
86	Westchester....	Pa.	1841–54	C.	55,000	4 800 00	1,100 00	4,000	600	$7 Hotels $20	Chester Creek, & Bath Spring.	½ mile	244,000	65,000		4 miles, iron, 4 @ 8 in,	None.	W. B. Waddell, Ch Eng.
87	Williamsport....	Pa.	1857	P.	40,000	2,500 00	300 00	6,000	120	$8, upward.	Hagerman's Run	1¼ miles	100 ft squ'e 17 deep.	Don't know	115	5 miles, iron.	None.	H. P. M. Birkenbine, Chief Eng. Clinton Lloyd, Sec.
88	Winchester.	Va.	1808–29	C.	60,000			5,000	300	$2 ₱ stop cock, or 50c ₱ an. fm pub. hyd.	Springs.	½ mile	20ft circu'ce 10 ft deep	Constant running, 2 8 in. pipes.		Ir'n pipe sub stituted for wooden pipe		W. G. Russell, Treas.
89	Worcester.....	Mass.	1844–45	C.	42,000			20,000	125	$6@24.	Bell Pond.	1600 feet	400,000	70,000		miles 4, 6, 8in. iron.	None	G. W. Wheeler, City Treas.

POST-OFFICE TOWNS IN THE UNITED STATES.

ARRANGED BY STATES AND COUNTIES,

Shewing where Gas-Works and Water-Works are Wanted.

ARKANSAS.

58 Counties, 613 Towns, *1 Gas-Works, no Water-Works !!!

Arkansas County.

Arkansas Post,	*Dewitt*, (c. h.,)	Pearson's Mill,
Clear Point,	Fair Dale,	Saint Charles,
Crain River,	Long Point,	Sharon,
Crockett's Bluff,	Molina Del Rey,	South Bend,
Cummins,	Mount Adams,	Swan Lake.

Ashley County.

Berlin,	*Hamburg*, (c. h.)	Maria Salome,
Chester,	Lake Enterprise,	Orion,
Elon,	Latona,	Portland,
Fountain Hill,	Long View,	Shiloh.

Benton County.

Apple Orchard,	Hico.	Roller's Ridge,
Bentonville,	Jenningsa Ferry,	Spuavinaw,
Bloomington,	Maysville,	Trott's Mill.
Double Springs,	Osage Mills,	Twin Springs,
Equality.	Pea Ridge,	Two Mills.

Bradley County.

Adamsville,	Hermitage,	Mount Elba,
Eagle Creek,	Iagle,	Sumter,
Gravel Ridge,	Lanark,	*Warren*, (c. h.,)

Calhoun County.

Hampton,	Locust Bayou,	Thomas' Store.

Carroll County.

Berryville,	Elm Wood,	Mount Pleasant,
Carrollton,	King's River,	Osage.
Crooked Creek,	Mountain Spring,	

Cherokee Nation County.

Baptist Mission,	Grand Saline,	Tablequah,
Flint,	Marble Salt Works,	Webber's Falls.
Fort Gibson,		

Chickasaw Nation County.

Fort Washita,	Pontotoc,	Tishemingo.

Chicot County.

Columbia,	Grand Lake,	Lake Village,
Eudora,	Hawkins' Landing,	Masona.
Gaster's Landing.		

Choctaw Nation County.

Armstrong Academy,	Eagletown,	Lukfahtah,
Boggy Depot,	Fort Arbuckle,	Toboxby,
Choctaw Agency,	Hochubbee,	Wheelock.
Doaksville,		

Clark County.

Alpine,	De Gray,	McNeeley's Ridge,
Amity,	Genoa,	Point Cedar,
Anvil,	Hickory Grove,	Rome,
Arkadelphia, (c. h.,)	Highway,	Springvale,
Beech Creek,	Okalona,	Terre Noir.
Clear Spring,		

Columbia County.

Calhoun,	Hicksville,	Magnolia,
Dorcheate,	Hobson's Store,	Palestine,
Falcon	Liddesdale,	Sulphur Springs.

Conway County.

Cadron,	Green Grove,	Olive Creek,
Cane Creek,	Lewisburgh,	State Rock,
East Fork,	Old Hickory,	Springfield.
Greenbriar,		

Crawford County.

Belmont,	Natural Dam,	*Van Buren*, (c. h.)
Lee's Creek,	The Narrows,	

Creek Nation County.

Creek Agency,	Micco.

Crittenden County.

Bledsoe's Landing,	Edmonson,	*Marion*, (c. h.,)
Cat Island,	Grayson,	Oldham.
Council Bend,	Hopefield,	

Dallas County.

Beech Bluff,	Como.	*Princeton*, (c. h.,)
Cachemasso,	Fair View,	Stover,
Chambersville,	Holly Springs,	Tulip.
Chappell,		

Desha County.

Antwerp,	Florence,	Red Fork,
Butler,	Laconia,	Selma,
Campbell,	Napoleon,	White River.
Cypress Creek,		

Drew County.

Barkada,	Green Mount,	*Monticello*, (c. h.,)
Branchville,	Ion,	Montonga,
Cornersville,	Lacey,	Relf's Bluff,
Cut Off,	Mars Hill,	Wolf Creek.
Dearmond's Mills,		

Franklin County.

Cass,	De Rosey,	Roseville,
Charleston,	*Ozark*, (c. h.,)	Short Mountain,
Constitution,	Pleasant Hill,	Sub Rosa.

Fulton County.

Bennett's Bayou,	Eagle,	Rapp's Barren,
Bennett's River,	Franklin,	Union.
Cross Plains,	*Pilot Hill*, (c. h.,)	

Greene County.

Campobella,	Greensboro',	Petra,
Chalk Bluff,	Lorado,	Shakspear,
Crowley,	Oak Bluffs,	Walcott.
Gainsville, (c. h.,)	Oak Ridge,	

Hempstead County.

Albany,	Graves,	Nashville,
Clark Mills,	Hickory Creek,	Ozan,
Columbus,	Justus' Mills,	Spring Hill,
Fulton,	Moscow,	*Washington*, (c. h.)

Hot Springs County.

Antioch,	Fitzhugh's Mills,	Midway,
De Roche,	Henderson,	Rockport,
Dividing Ridge,	Hot Springs,	Sheriff's Ridge.
Fair Play,	Magnet Cove,	

Independence County.

Alder Brook,	Galloway,	Rock Point,
Batesville, (c. h.,)	Graham,	Rust's,
Big Bottom,	Hickory Valley,	Sullivan Springs,
Black Oak,	Merrittsville,	Sulphur Rock.
Buckhorn,	Oil Trough,	Wallace Creek,
Convenience,	Pleasant Plains,	Walnut Grove,
Curia,	Lake Bayou,	Wolf Bayou.

Izard County.

Benbrook's Mills,	Mount Olive,	Sylamore,
Big Spring,	North Fork,	Table Rock,
Bine Mountain,	Rich Woods,	Violet Hill,
Green Bush,	Rocky Bayou,	Wild Haws.
Mill Creek,		

Jackson County.

Augusta,	Elgin,	Jacksonport,
Brown's Creek,	Grand Glaze,	Kenyon,
Colerain,	Jachin,	Mount Pinson.

Jefferson County.

Brook's	Locust Cottage,	Plum Bayou,
Byrd's Springs,	Monday,	Richland,
Camp Creek.	New Gascony,	Watersely,
Darysaw,	Pastoria,	White Sulphur Spr'gs,
Egypt,	Peach Grove,	White Bluff,
Flat Bayou,	Pine Bluff,	White Oak,
Lehi,		

Johnson County.

Clarksville,	Patterson's Bluff,	Pittsburgh,
Cobbsville,	Pekin,	Point Meers,
Eubank's Mills,	Piney,	Shoal Creek.
Horse Head,		

La Fayette County.

Covington,	Line Ferry,	Spring Bank,
Forest Grove.	Oak Hill,	Walnut Hill.
Lewisville, (c. h.,)	Rondo	

Lawrence County.

Ash Flat,	Houghton,	Powhatan.
Calamine,	Jackson,	Reed's Creek,
Camanche,	Linwood,	Sidney,
Canton.	Martin's Creek,	Smithville.
Clover Bend,	Mount Sylvan,	Stranger's Home,
Cuba,	Osborn's Creek,	Strawberry,
Evening Shade,	Paw Paw,	Sugar Grove.
Hazel Grove,		

Madison County.

Clifty,	Kingston,	Saint Paul,
Huntsville, (c. h.,)	Little Spring,	War Eagle,
Jupiter,	Marble,	Wesley.

Marion County.

Big Pond,	Dubuque,	Whiteville,
Buffalo City,	Lead Hill,	Yellville.
Clear Creek,	Rolling Prairie,	

Mississippi County.

Barfield,	Holly Grove,	Pecan Point,
Hickman's Bend,	*Osceola*, (c. h.,)	Shawnee Village.

Monroe County.

Aberdeen,	Lawrenceville,	Pleasant Lake,
Clarendon,	Moro,	Surrounded Hills,
Cyprus,	Pine Grove,	Valley Grove,

Montgomery County.

Big Fork,	Crystal Hill,	Mazarine,
Caddo Grove,	Harold,	Mount Ida.
Centreville,		

Newton County.

Rowland,	Mount Judea,	Watkinsville,
Cave Creek,	Mount Parthenon,	Whitteley's.
Jasper, (c. h.,)	Walnut Fork,	

Perry County.

Casa,	Onyx,	Tyler's Bluff.
Cypress Mills,	*Perryville*, (c. h.,)	

Phillips County.

Askew,	Jeffersonville,	Planters,
Beech Grove,	La Grange,	Sterling,
Edwardsburg,	Marianna,	Trenton,
Gillen's Landing,	North Creek,	Walnut Bend,
Helena, (c. h.,)	Oldtown,	Wayne.

Pike County.

Antoine,	Huddleston,	Royston,
Brocktown,	Murfreesboro'	Wilton.
County Line,		

Poinsett County.

Caseyville,	Harrisburgh,	Lockbee,
Cold Water,	Johnston,	Santa Fe.
Goldsboro',		

Polk County.

Big Bend,	Edge Hill,	Quito,
Cove,	Gap Springs,	Reardon.
Dallas,	Mountain Fork	

Pope County.

Dayton,	Geesville,	Moreland,
Dover.	Glass Village,	*Norristown*, (c. h.,)
Gally Creek,	Gum Log,	Rock Hill,
Gally Rock,	Hebron,	Russellville.

Prairie County.

Brownsville,	Duvall's Bluff,	Lake Bluff,
Centre,	Gum Wood,	Larissa,
Cherryville,	Hamilton,	Oakland Grove,
Clear Lake,	Hickory Plain,	Walnut Plains,
Des Arc,	La Grue,	Watensaw.

Pulaski County.

Bayou Metoe,	Manmelle,	Pennington's Mills,
Good Hope,	North Point,	Uberty.
Little Rock, (c. h.,)	Palarm,	Waverley.
Mary,		

Randolph County.

Baptist Fork,	Crosson's Store,	Lima,
Black's Ferry,	Fourche Dumas,	*Pocahontas*, (c. h.,)
Cherokee Bay,	Hix's Perry,	Spring Creek.

St. Francis County.

Calvert,	Jones Hill,	Mill Ridge,
Cotton Plant,	Languelle,	Oakland,
Eureka.	Linden,	Taylor's Creek.
Gage's Point,	Madison,	Wittsburgh.

Saline County.

Akin's Store,	Cherry Grove,	Lost Creek,
Belfast,	Collegeville,	Owensville,
Benton, (c. h.,)	Hickory Flat,	Prattsville,
Bland's,	Hungary,	Whittington.
Brazil,		

Scott County.

Black Jack.	Ollo.	Trouble Hill,
Boonville, (c. h.,)	Parks,	Tumblinsonville,
Cedar Creek,	Revilee,	Waldron.
Chismville,	Texas,	

Searcy County.

Big Flat,	Marshall Prairie,	Tomahawk,
Burrowsville,	Point Peter,	Wett's Spring,
Calf Creek,	Providence,	White Oak Shoals,
Lebanon, (c. h.,)	Rockfish,	Wiley's Cove.
Locust Grove,		

Sebastian County.

Back Bone,	Fort Smith,	Long Prairie,
Bloomer,	*Greenwood*, (c. h.,)	Sugar Loaf,
Breckinridge,	Hodge' Prairie,	Vache Grass,
Brunner,	James's Fork,	Valley.
Chocoville,	Jenny Lind,	

Sevier County.

Adrian,	Mineral Hill,	Richmond,
Brownstown,	Nelta Boc,	Rocky Comfort,
Centre Point,	Norwoodsville,	Ulima Thule,
Farmington,	Paraclifta,	White Oak Shoals.
Millwood,		

Union County.

Atlanta,	Meeks,	Three Creeks,
Champagnolle,	Mount Holly,	Tremont,
Eldorado,	New London,	Union Springs,
Hillsboro',	Pigeon Hill,	Wilmington.
Lisbon,	Scotland,	

Van Buren County.

Clinton,	Kinderhook,	Middletown,
Cumfort,	Liberty Springs,	Quitman,

Washington County.

Ada,	Elm Springs,	Lynch's Prairie,
Billingsly,	Evansville,	Maguire's Store,
Boone's Grove,	*Fayetteville*, (c. h.,)	Spring Mill,
Boonsboro',	Greenville.	Taney,
Buchanan,	Hermansburgh,	West Fork.
Cincinnati,	Hilochee,	

Washita County.

Buena Vista,	Fresco,	Mount Moria,
Buchanan,	Hermansburgh,	Ouachita,
Buffalo,	Lamartine,	Peterburgh,
Camden, (c. h.,)	Liberty,	Seminary,
Caney,	Lone Grove,	Woodlawn.
Carouse,	Luda,	

White County.

Centre Hill,	Muddy Bayou,	Stony Point,
Cold Well,	Rose Bud.	Velvet Ridge,
Judson,	Royal Colony,	West Point.
Kentucky Valley,	*Searcy*, (c. h.,)	

Yell County.

Bluffton,	Dutche's Creek,	Pleasant Valley,
Chikalah,	Gravelly Hill,	Rock Creek,
Danville, (c. h.,)	Parkersburg,	Rover,
Dardanelle,	Petite Jean,	Walnut Tree,

OFFICERS OF THE BRITISH GAS-WORKS.

ENGLAND AND WALES.

(*Concluded from page* 121, *Vol. II.*)

Over Darwen. James L. Hawthorn, Engineer.

Parsonstown. John Hallevy, Proprietor; P, Brady Manager.

Peniston, Thurlstone, and Oxspring. E. Unwin, Managing Director, residing at Sheffield.

Penzance. M. Colliver, Sec.

Petersfield. Richard G. P. Murty, Sec. This is a gas, coke and oil company.

Petworth. Henry Upton, Manager.

Plymouth and Stonehouse, G. Henderson, Sec.

Portsea. James F. Absalom, Sec. The meters are the property of the consumers, with very few exceptions.

Ramsey, Isle of Man. John Hampton, Sec.

Reading Union. James Ball, Manager. The price charged for gas is regulated by the quantity consumed. The price for public lights, £3 5s. ($16 25) each, includes cleaning, repairing, lighting and extinguishing. Consumers using less than 5,000 feet each half year, are charged 7s. ($1 75) per 1000 cubic feet—larger quantities lower, as above. There are two gas companies here.

Rhyl. W. Richardson, Engineer and Acting Proprietor. Mr. Richardson is also a contractor at Rhyl and Dudley. His report is rather lean.

Rugby. This is where Tom Brown went to school. Annual charge for lamps is 58s. ($14 50) each.

Rye. Public lamps charged £3 ($15) each, for eight months.

Royston. The high charge for gas here is caused by a heavy land carriage on coals. They expect to reduce the price of gas to 6s. ($1 50) in a year or so.

Saffron Walden. John Marten Managing Director.

Saint Asaph. Miles R. Partington, Sec. A new company, having commenced supplying gas only in November, 1859, hence their meagre report.

Saint Helens. Wm. Pritchard, Manager.

Saint Ives, Cornwall. Town lamps have been discontinued for twelve months, the rates being disputed, we suspect, by some refractory members of the community. They ought to innoculate some New York aldermen into the Town Council. Our aldermen are chiefly from the Emerald Isle, and deny us nothing (nor themselves). These gas works have been established 25 years.

Salisbury. D. A. Good, Manager and Engineer.

Sandwich. W. S. Edmonds, Manager.

Saxmundham. Thomas Thurlow, Sec.

Settingbourne. George Smeed, sole Proprietor.

Sheep-bed. Edward Beer, Sec.

Sheffield, United. Edwin Unwin, Engineer and Managing Director, who obligingly sends us a very complete report, full of interest. It would do credit to

any of the metropolitan companies. Incorporated by the Sheffield Gas Act, 1855. Joints chiefly turned and bored, lead and yarn. Service pipe, soft head laid in wood.

Shotley Bridge. C. Janson, Jr, Sec. Another limited company.

Skipton. Public lamps charged £2 7s. ($11 75) each for 2000 hours; burner to consume 6 feet per hour at 2 inch pressure. The company lights, cleans, repairs, and finds material. Cheap.

Snaith. John Hepworth, Manager.

Somerton. Edward Welch, one of the Directors, was kind enough to fill up and forward a reply to our inquiries. The works have been in operation but two years.

Southwold. Thomas H. Jellieve, Sec.

Spalding. A private company, report confidential.

Staindrop. Jos. Fawcett, Manager.

Stamford and St. Martins. G. Jeffs, Clerk. Public lamps charged £2 13s. ($13 25) each, for 1800 hours consumption.

Stoke Fenton and Longton Staffordshire Potteries. Alfred Young, Engineer.

Stratford-upon-Avon. The birth-place of Shakspeare. Henry Cranmer, Manager and Sec.

Sunderland. J. H. Cox, Secretary and Manager. This company supplies Bishopwearmouth and Monkwearmouth, as well.

Swansea. Thornton Andrews, Manager and Engineer. Scattered district, and poor class of consumers. Use 80 clay retorts, an exhauster and engine. Present value of shares, $450 on $250 par value. During past three years the rental has doubled itself. Public lamps pay per annum £3 7s. 6d. ($16 87) each.

Taunton. Thomas Fisher, Secretary and Manager. All the meters are supplied by the company, who keep them in repair, and make no charge for their use. Public Lamps are charged £3 ($15) each per annum, lighted nine months in the year. Mr. Fisher sent us his balance sheet, which was published in our last number, on page 124. He will please accept our thanks for his polite attention.

Teignmouth. Wm. R. Hall Jordan, Clerk to the Teignmouth Local Board. This is not a gas company; the works belong to the Teignmouth Local Board. The town rates are expended in lighting the town; consumers are supposed to pay cost price. The Local Board act under the Teignmouth Improvement Act, of 1836, the Public Health Act, of 1848, the Local Government Act, of 1858, and the Local Government Supplemental Act, No. 2, of 1859. Gas works were built with money borrowed by the town and charged with other means borrowed for water-supply, sewerage, &c., in the town rates. The sum of £200 ($1000) a year, is set apart out of the General District Rate, and carried to the gas account as payment for the public lamps.

Thetford. Thomas Richardson, Sec.

Thirsk. Anthony Atkinson, sole proprietor.

Thornbury. For 22 public Lamps, £40 ($200) per annum is charged; estimated to be about 5s. ($1 25) per 1000 cubic feet.

Tiverton. J. Heathcoate & Co's. private property.

Topsham J. P. Harrison, Sec.

Torpoint. Although registered as a gas company, they have not yet commenced working or erecting any plant, in consequence of the gas-works being at present in the hands of a private individual, and they are confined exclusively to the coal trade. Their title is the Torpoint Coal and Gas Company.

Trowbridge. The business of this station is transacted at the British Gas-Light Co's. Office, No. 11 George Yard, Lombard street, London.

Uttoxeter. Thos. Fradgley, Sec.

Wainfleet. Henry Rutter, Manager.

Walsall. Richard Challmoe. Manager.

Wellingborough. Charles Gill, Sec.

Wellington. Henry G. Crowe. Company formed, and works erected in 1833. Public lamps charged £3 ($15) for lighting 9 months, from dark to daylight, saving five nights at the full of the moon, with 11 candle gas, 5 feet per hour.

Wem. A new gas company, which commenced operations in June last, on the termination of Mr. Edward Evans' lease. "The public lamps are lighted 7 months, and not lighted such nights as are lit by the moon; light up and put out to follow the moon, at 42s. per lamp, lighting, cleaning and reparing included. The price of gas to private consumers will be reduced next winter to 7s. per 1000 cubic feet. Any further information, we shall be glad to give." Thanks.

Westerham. Wm. Pywell, Secretary and Manager.

Weymouth. The gas works are leased to Robert Church.

Whitby. Anthony Atkinson, sole proprietor.

Whitehaven. Thomas Tallentine, Manager. The public lamps are lit by contract. The harbor lamps, which burn 12 months, are all batwing, and pay £2 7s. ($11 75); the Town lamps, which burn 10 months, pay £2 ($10) for batwing, and £1 ($5) for cockspur burners.

Winslow. James King, Sec.

Wisbech. Thomas Henry Bartlett, Manager. New company; established September 29, 1859.

Woburn. George B. Clark, Sec. 2 guineas per annum; one-half the lamps burn until 11 o'clock at night, from one hour after sunset, the remainder of the lamps burn until one hour before sunrise the next morning, from the 1st of September to the 30th of April; not lighted in the summer at all. The mains caulked with oakum and cement, and finished with lead; inside fittings, lead joints, excepting in the iron services, then cement is used.

Wolverhampton. James Homer, Sec. Public lamps charged £2 19s. each, for 8 months, and £3 14s. for 12 months' burning.

Worksop. A. Watson, Clerk. £2 16s. per lamp, each to burn 2010 hours, for 8 months in the year; the company find lamps, posts, and light and extinguish the same, which reduces the price of gas to about 4s. per 1000 feet. Mains, lead joints; services cement joints.

Worthington. P. J. Wells, Engineer.

Wotton-under-Edge. H. Clark, Sec.

York. Joseph Braddock, Clerk, Engineer, and General Manager.

SCOTLAND.

Airdrie. B. M. McCrae, Manager.

Anstruther and Cellardyke. John Adamson, Manager.

Arbroath. Robert Brown, Manager. This company has paid 7½ per cent. per annum for the last twenty years, and makes 15,000,000 cubic feet annually.

Auchterwarden. Alexander McEwen, Manager.

Bervie. Thomas Whitton, Manager.

Brandon. Gas works belong to Eastern Counties Railway Company, for private use of station.

Brechino. James Barclay, Manager. Gas all made from Cannel coal.

Broadbottom. John Bostock, Manager. What may be called a gas company here, is a subscription among a few householders, to purchase gas for their own consumption from a cotton factory closely adjacent.

Broughty Ferry. G T. Myers, Manager.

Burntisland. Gas works belong to Edinburgh, Perth and Dundee Railway Company.

Comrie. Archibald Stewart, Sec.

Crieff. George P. Boyd, Manager.

Dalkeith. Our friend, John Young, Engineer and Manager.

Douglas. Robert McKinlay, Sec.

Dundee. John Z. Kay, Engineer.

Dundee. New Co. John Z. Kay, Engineer.

Edinburgh. J. H. Watson, Manager. There are two companies here, the Edinburgh Gas-Light Company, established in 1816, and incorporated in 1818; and the Edinburgh and Leith Gas-Light Company, incorporated in 1841. We regret that the very full information given to us, was marked confidential. It was one of the most interesting that we received.

Falkirk. George R. Hislop, Manager.

Fochabers. Wm. L. Wright, Sec.

Greenock. Alexander Ritchie, Manager and Treasurer. Works the property of the Corporation.

Haddington. James Robb, Manager. Gas sold last year, 3,000,000 cubic feet. Average price of Parrot coal, 21s. per ton at the works.

Halstead. R. E. Greenwood, owner. Private works.

Huntley. John Smith, Manager.

Inverness. Wm. Steven, Manager. Gas and water.

Kelso. Wm, Clazy, Manager.

Kirkcudbright. Wm. Elliott, Manager. Fry the best Lesmahago Cannel coal.

Leslie. David Swan, Sec. and Treasurer.

Lesmahago. T. and J. McCartney.

Maxwelltown and Dumfries. John Dewan, Manager.

Melrose. Walter Hogg, Manager.

Oban. Daniel Clark, Sec.

Pittenweem. John Henderson, Manager.

Perth. George Gray, Secretary. A new company started in 1845, supplies about two-fifths of the consumption, which will amount altogether to about 30,000,000.

Renfrew. Gas works the property of the Corporation.

Ross. Nathaniel Taynton, Sec. In the hands of the Town Commissioners for the last seven years, since which no charge has been made for the public lamps.

Sidmouth C. T. Holcombe, Proprietor; Paul Hayman, Manager. Private works.

Selkirk. Wm. Robson, Manager. [We have complied with your request.—Ed.]

Southport. Daniel Webster, Manager. The Town Commissioners purchased these works about fourteen years ago.

Stewarton. Wm. Turnbull, Clerk.

Stirling. John Macnie, Manager.

Stonehaven. James Burnup & Co., Proprietor.

IRELAND.

Athy. John Glover, Sec.

Ballinasloe. Town works. Robert LePoer Trench, Chairman of Town Commissioners.

Ballycastle. Company about being wound up.

Ballynahinch. A. Browne, Sec.

Bangor. John Davis, Manager. Original capital £1750, but the works having cost £2,200, a debt of £450 was incurred. By economy and good management, £400 has been paid off in four years, and 1861 will, we hope, see the company "on the square." The joints of the mains were first caulked with rope, and then ¾ of an inch of molten lead poured in and driven up firmly. No leaks.

Carrickfergus. Thomas O'Hara, Manager; John Thorn, Sec.

Coleraine. John Robinson, Manager. Gas works are the property of the Town Commissioners for the time being, and cost, when erected in 1845, the sum of £3,600. All increase to the works is made out of the profits, and the surplus is handed over to the Town Fund, to be applied to the relief of the Rates

Comber. James Andrews, Sec. This company has been established but four years, during which time the dividends have been 5 per cent. per annum, except the first year, when the profits were added to capital.

Cookstown. Clarke Moore, Sec.

Cork Consumers. Denny Law, Sec.

Dublin Alliance. John Stevenson, Sec. There is another company in this beautiful city, (we have been there) called the Hibernian, occupying a large district, and supplying about 3000 public lamps, at from about £3 19s. to £6 6s. per lamp. The public lamps of the Alliance Company are confined to a rural district, known as the township of Rathmines.

Ennis. John Petty, Sec.

Enniscorthy. Richard B. Harris, Manager. Public lamps supplied at £2 15s. per annum, burning 4 feet per hour, lighted from Sept. 1 to May 1. Private Company.

Keady. Richard Hutchinson, Sec.

Killarney. Gas works in course of erection.

Larne. John H. Gawn, Sec.

Letterkenny. John Storey, Sec. This company commenced operations in 1857, the capital estimated was too small, but instead of issuing additional shares, the managers determined very wisely to capitalise the profits to the amount of £500, and as soon as this has accumulated, and not before, dividends will be made. The lamps burn by contract, about 8 months only.

Lisburn. Robert H. Neill, Manager; John Millar, Chairman.

Navan. John Mullen, Sec. This company began, like a good many others, with a debt. Next year, a good fat dividend may be expected, as the almanac says.

Newtonlimavady, N. G. Lynch, Sec.

Omagh. D. McCallam, Manager and Sec.

Portadown. George Kinkead. Sec. Scale of discounts allowed to consumers on the year's account:

For.....	25,000	to 50,000	cubic feet	5 per cent.
"	50,000	" 100,000	"	10 "
"	100,000	" 150,000	"	15 "
"	150,000	" 200,000	"	20 "

Tralee. John Campbell, Clerk. The Town Commissioners are honorary members, appointed under Act 9, Geo. iv., chap. 82, for the purpose of "Lighting, cleansing, and watering of cities, towns corporate, and market towns in Ireland—in certain cases." They are elected every third year by the ratepayers. The cost of the plant, £2,460, was raised by debentures, issued at £5 each, the commissioners engaging to pay 6 per cent interest, which has been paid. There is no special charge for public lamps, but the commissioners levy, yearly, a borough rate, amounting to about £320, which of itself is insufficient, were it not for the profit derivable from the gas, the surplus of which profit, after paying the interest, is allocated to civic expenses not otherwise provided for by the borough rate. The accounts are balanced every 31st July, after which they are published, and a copy transmitted to the Chief Secretary, Dublin Castle. The chairman is elected every year, at the first meeting after the 31st July.

Wexford. James Furniss, Lessee. Report asks, "What is the price of your JOURNAL?" Answer—Twelve shillings sterling per annum.

Wicklow. Robert Harper, Sec.

WATER METERS.

In a recent enumeration it appears that about 10,000 water meters, working under "high pressure," are in use in Europe. Of these, nearly one half are "inferential meters," so called, the quantity of water passed being inferred, with more or less accuracy, from the revolutions of a small turbine or other rotary arrangement through which the water is discharged. The other meters in use are those in which the water is accurately measured in a cylinder, in which a piston is moved by the water passed through. Of this class of meters Kennedy's is in the most extensive use in England, and H. R. Worthington, of New York, has made a double-cylinder meter, which works practically with still better results. A meter precisely like Mr. Worthington's was patented in England by a Mr. Jopling, only forty-two days after Mr. Worthington's English patent had issued. The most recently devised water meter in successful use, is that of David Chadwick, of Salford, England. This is a single cylinder meter, the cylinder being placed upright and lined with brass. The piston is packed with "cupped" or "crimped" leather. At the completion of each stroke of the piston, a notch on the piston rod moves, not the valve which reverses the admission of water to the main cylinder, but a very small valve which admits water to a small cylinder, the piston of which moves the main valve. By this arrangement, which is, perhaps, a little complicated, the main piston of the meter is certain to move the small supplementary valve, which, once changed, is thus certain to reverse the current of water through the meter, even if the main piston is at rest. The whole apparatus works in water, and does not, therefore, need lubrication, and it moves without shocks of any kind. The use of water meters is very necessary in this country, where water is squandered at a rate unknown in the cities of Europe. When water is supplied, like gas, by measure, every one using it will at once economize the former as much, certainly, as he does the latter.

THE AMERICAN GAS-LIGHT JOURNAL is published on the 1st and 15th of every month, and is specially devoted to

LIGHT, HEAT, WATER-SUPPLY, AND SEWERAGE.

Its purpose is to ascertain and make known all new discoveries in the science and economical application of LIGHT, and promote thereby the interests of companies and consumers; to encourage and aid the introduction of PURE WATER from Lakes and Rivers into Towns and Cities, and to improve the system of SEWERAGE, VENTILATION, and DRAINAGE everywhere.

Incidentally with these results, the business of all Gas and Steam Fitters and Plumbers; the erection of Gas-Works and Water-Works; the consumption of Coals, the manufacture and consumption of Coal-Oils, the manufacture of Gas-Pipe, Water-Pipe, Steam-Pipe, Gas Fixtures, Gas-Meters, Water-Meters, Retorts of iron and clay, and their varied apparatus; of Drain Pipes, Ventilating, Heating and Dredging Machines will be increased immeasurably.

THERE ARE 20,000 CITIES AND TOWNS IN THE UNITED STATES, CAPABLE OF SUPPORTING GAS-WORKS, WHILE THERE ARE NOT 400 GAS-WORKS IN OPERATION IN THE WHOLE COUNTRY!!!

New works are now springing up, however, every week, and they will continue to increase rapidly hereafter.

Advertisers of Gas and Coal Oil, Water, Steam, Sewerage and Ventilating apparatus, and of Iron and Brass manufactures, &c., will find the AMERICAN GAS-LIGHT JOURNAL the most desirable and efficient medium of any in the United States, going, as it does, direct to the parties interested in those subjects.

TERMS—CASH IN ADVANCE.

SUBSCRIPTION—In the U. S. and British Provinces, $3 per annum.
Do. To English subscribers..... 12s. "
Do. To French and German subscribers, 16f. "
payable to our Agents or Bankers, as below.

ADVERTISEMENTS—According to position and space occupied. For particulars of which please address the Proprietor.

☞ Remittances by mail to be addressed to the proprietor,
JOHN B. MURRAY,
ROOMS of the AMERICAN GAS-LIGHT JOURNAL,
Nos. 254 and 256 Canal street, NEW-YORK CITY.

AGENTS OF THE AMERICAN GAS-LIGHT JOURNAL.

FOREIGN.

Germany..... ..... B. WESTERMAN & Co., of New York.
Great Britain,..WHEATLEY, STARR & CO., 156 Cheapside, London.
TRUBNER & Co., London.
Paris, France..... { LE JOURNAL DE L'ECLAIRAGE AU GAZ, 24 Boulevard Poissonnière.

BANKERS IN LONDON.

WHEATLEY, STARR & CO., 156 Cheapside, to whom all payments for our account must be made; and who will forward to us all packages, samples and orders, on payment of charges.

DOMESTIC.

The AMERICAN GAS-LIGHT JOURNAL can be purchased of all the newspaper and periodical dealers in the United States and Canada.

THE
AMERICAN GAS-LIGHT JOURNAL.
PUBLISHED SEMI-MONTHLY.

THURSDAY, NOVEMBER 1, 1860.

The long promised tables of water works of the Western Continent are, at last, presented to our readers in this number. The names, as far as obtained, have before never been collected, and although the list is not quite complete, it is the best that can be produced after the labor of several months. The absence of particulars in cases where blanks are opposite the names of works, is owing solely to the inattention of the officers to the circulars of inquiry. It is surprising that the importance of such statistics to the general water interest is not more fully appreciated, as the absence of a single report drops a link in the chain of details much to be regretted, and hardly capable of being replaced by tardy, even if more voluminous particulars.

According to the tables, therefore, incomplete as they are, there appear to be:

82	American Water-Works,	
7	British Provincial do.	
89	Water-Works on this continent.	
	Of the above, our Tables show—	
59	American Water-Works, costing.....	57,992,471
4	British Provincial " "	2.180,000
63	Water-Works, ascertained cost.....	60,172,471
23	American Water-Works, estimated cost.....	9,500,000
3	British Provincial " "	1,500,000
89	Water-Works, probable cost.....:.....	$71,172,471

This particular department of the public service being owned and controlled in most towns by the various municipalities, prevents the issuing of shares, so that it is hardly possible to form a correct estimate of the profits of the business, excepting by calculations of the interest upon cost, expenditures and receipts, in each particular case. We know of no water shares in the market in any city of the Union. Water stock, as a public funded debt, although carrying a low rate of interest, commands, as a general rule, a price quite above par. The nature of the security may, therefore, be regarded as popular.

The publication of these tables, and the train of interesting matter accompanying and to follow them in this JOURNAL, will open a new field of enterprise, second only to that of the extension of the gas-domain, in the increase of water works throughout the United States, an essential in which the whole country may be said to be lamentably deficient.

Water works may now be built at a comparatively low cost, so refined have become the means and appliances for their application, and builders of that class of public works may as well run their eyes over the names of the post office towns as they appear, for eligible sites for business.

Among the various subjects that will come up for discussion in the columns of this JOURNAL, as a part of the water interest, there are two that demand particular notice, viz.: water meters and water pipes. Of the first it will be seen that but very few are used here, those few being chiefly Worthington's, which are said to be entirely reliable instruments; of pipes, besides cast-iron, a species of cement pipe is used by some of the Companies, and we have heard that an admirable stone ware pipe is about being introduced here, of which we shall have occasion to speak.

In concluding these remarks we beg to present to Mr. ALBERT STEIN of Mobile, Ala., our thanks for the personal interest and trouble he has taken in procuring and conveying to us information from various parts of the United States.

Some of the daily papers of this city have stated that, in consequence of the immense waste of the Croton Water, meters are about to be used for compelling each consumer to pay for the precise amount of water he uses. We are informed that at present no such design is in contemplation, the practical difficulties in the way being regarded by the authorities as too great. It is, however, intended to enforce rigidly the fines imposed by law on all persons found wasting the water, and special efforts will, so we are assured, be put in operation for ascertaining who the delinquents are. It has been supposed that the greatest waste occurs during the heat of summer, and for the extinguishing of fires. This is not so, for during each of the great fires that have raged in this city, the level of reservoirs has not perceptibly sunk, the depth of water rather increasing during these calamities, in consequence of a diminished consumption for manufacturing and other purposes through the engagement of the workmen at the theatre of the conflagration. On referring to the records of the Croton Water Department, it is found that the drain upon the reservoirs is greatest in winter, and that it increases with the severity of the weather. Indeed it is evident that large numbers of persons, when a severe frost sets in, leave their taps running day and night. The Department has determined to bring this practice to an end, and to mulct in full penalties all parties who shall be found indulging in so reprehensible a practice.

We publish elsewhere, from the *Railway Review*, a very interesting and able article on the Detroit water works, which we commend to the attentive perusal of all who are in the habit of occasionally preparing Reports for the information of the public. Statistics are popularly regarded as unreliable and deceptive, and there is no doubt that the ignorant or designing may, by columns of figures, mislead either themselves or others. But no argument is necessary to prove the self-evident proposition that the Reports of Gas and Water Companies, like other historical records, derive their chief value from the accuracy and extent of the statistical information they convey. The article before us, notwithstanding its few obvious defects, is, considering its brevity, one of the most suggestive we have for some time examined. We have previously stated in these columns that we shall be glad to receive the reports of various companies in manuscript, and thus relieve our friends of the trouble of printing. We would now urge the gentlemen who send us their papers to be as full and complete as they can in stating the aggregate cost of their works, the annual receipts and expenditure, the increase of population, with their sanitary condition and family subdivisions, the laboratory experiments, tabulated calculations, and special economies, with other facts familiar to the intelligent engineer who knows his business, has an exalted view of his responsibilities, and is animated by an elevating and noble ambition to watch intelligently over the interests confided to him.

Some of our correspondents in commenting on the remarks we offered a month ago relative to the larger capital invested in American gas-works as compared with those of Europe, have suggested that among the causes for the heavy investments of our companies a prominent place should be assigned to the "wild speculation induced by boards of direction, composed of penniless adventurers, utterly without either money, honesty, or practical knowledge." A credulous and too confiding public, they say, has been fleeced to put money into the pockets of scheming directors and incompetent officials. "Works have been erected which are costly, imperfect and inefficient. The apparatus supplied at high prices by contractors who are paid half in cash and half in stock, has in a very short time to be replaced and re-constructed if the works are to answer their purpose, and if any dividend whatever is to be secured."

That such cases have occurred we are assured; but that they are frequent, or can be extensively repeated, we can scarcely believe. For the aggrieved parties have the remedy in their own power; and if they will only use the public press wisely, and expose in a temperate, authentic and proper manner the wrongs they have suffered, the career of the few schemers who have wrought the mischief must soon be brought to an end. Besides, in this city and elsewhere, we have men whose whole lives have been employed in the gas manufacture, whose knowledge, integrity and skill may be thoroughly relied on, and who would be as willing as they are competent to give disinterested advice to those who need gas-works, and are ready to find the necessary capital for their erection. For ourselves we can say that it will afford us much pleasure to render any services in our power for the exposure and prevention of evils such as have been referred to.

Considering the rapidity and vigor which have characterized the expansion of the gas-light interest in this country, it is not surprising that abuses should have grown up. Wherever joint-stock companies have existed, the same evils have been complained of, and the only wonder is that, in connection with gas-works, such cases are so exceptional and so rare.

In another column will be found the constitution and rules of the Benefit Society established by the employés of the New City Gas-Light Company, Montreal, C. E. We shall be glad to hear of the rise and prosperity of similar associations elsewhere. In the great Paris Gas Company, we believe that by the payment of 2 per cent. on the weekly wages of the workmen, a fund is provided adequate to sustain those whom sickness, disease, or accident prevent from earning their usual means of support. The advantages of such associations are obvious, and when proper checks against fraud and loss are established, their success in averting trouble and combating evil, in preventing moral degradation, and in fostering habits of prudence, economy and self-respect, cannot be doubted. We shall shortly resume this subject, and meanwhile we invite communications relative to existing or projected Benefit Societies and Sick Funds in connection with various gas-establishments and water-works in this country and in Europe.

NEW WATER WORKS PROJECTED.

The attention of the American people is being directed to the construction of water works in all towns where the source of supply is sufficiently near to justify the expense. At the North, where money is plenty among thriving and industrious communities, there is no difficulty in bringing this about; but at the South, or rather in some of the southern towns, there is, as the Chinaman said, "good deal nigger," but little money, and it will probably be found cheaper to adopt the plan of purifying water on the spot than any other means. Then comes up the question, which is the best purifying apparatus? A good many of them will be wanted.

WHERE WATER-WORKS ARE WANTED

The city of Rochester, N. Y., advertises in this number of the JOURNAL for proposals for building water-works in that place, to which we direct the attention of contractors. Mr. DANIEL MARSH, Civil Engineer, has presented to the Mayor and Common Council of that city, an elaborate report of a proposed plan, with estimates of cost, and a map of the contemplated route, from actual surveys, from which, we regret our limits prevent our making extracts at this moment. We shall certainly avail, at an early day, of much valuable information in this report. No city can be more admirably situated for the introduction of water, than Rochester, there being no less than five lakes, three sizable creeks, Caledonia Spring, the Mendon Ponds and the Genessee River, in its immediate vicinity; all possessing an abundant supply of pure drinkable water.

Water-works are wanted, also, in Charlestown, Mass., Columbus, Geo., Covington, Ky., Danbury, Ct., Lafayette, Ind., Lockhaven, Pa., Montgomery, Ala., New Haven, Ct., Newport, Ky., Portland, Me.; and the subject of water-supply is being agitated in several other cities, North and South, and they will speak out their need of both gas and water-works, as soon as they have seen, through the columns of the JOURNAL, how easily they may be obtaineed.

WHERE GAS-WORKS ARE WANTED.

We are now publishing regularly the names of the thirty or forty thousand post-towns in the United States, and our readers will see that in large numbers of them gas-works and water-works may be erected immediately with advantage. Builders and others interested, will thus be able to inform themselves of new openings for business. And as each postmaster will receive several copies of the AMERICAN GAS-LIGHT JOURNAL for distribution, the number thus circulated will probably exceed three millions of copies. *What a chance for Advertisers!*

We shall issue hereafter, to our advertisers only, a private bulletin, containing the names of such new gas-works and water-works as we hear proposed, that they may reap any benefit to be derived from the earliest information.

FILTERING RESERVOIRS.

Various enquiries have been made by Engineers of water-works, as to the most approved method of filtering large bodies of water stored for distribution, and we invite replies from those who have results to announce from actual experiment.

PERSONAL.

Mr. John F. Harrison, late engineer of the Havana Cuba, gas-works, has removed to the United States, and his place has been filled by Mr. John P. Caldwell. Mr. Harrison intends devoting himself to the construction of gas-works, and drawing specifications and plans. Any orders or communications addressed to him at these Rooms will be forwarded.

Mr. R. Merrifield, Secretary of the Albany, N. Y., gas-works, resigns that position this day to join Mr. Samuel Down, of this city, in the manufacture of gas meters, under the firm of Down & Merrifield. They have our best wishes.

Among the visitors to these Rooms lately was Dr. Kidder, inventor of the gas-regulator of that name. The Doctor, after giving to the world a creditable specimen of his inventive genius, returned to his profession and like a true disciple of Galen, is no doubt aiding the ancient and honorable body of undertakers to *urn* a decent livelihood, as the immortal Tom used to say.

We mentioned briefly in a previous number that Mr. Horatio Eagle had removed from these Rooms to No. 126 Maiden Lane, between Pearl and Water Streets, where he has established a general agency for the sale of gas, apparatus. We found it desirable to disconnect this JOURNAL from even the appearance of all commercial interests, as it stands entirely disinterested towards all its patrons; and Mr. Eagle coinciding with our views removed to the point indicated, where, we are glad to hear, he is doing a satisfactory business.

Mr. Joseph Mackay, agent of Messrs. Croll, Rait & Co., the extensive gas-meter makers, of London, arrived by the Asia, and called upon us the following day. Mr. Mackay proceeded to Boston on the same day, but will return, soon, to this city.

BUSINESS DEPARTMENT.

Messrs. S. A. STETSON & Co., of Boston, advertise today Mr. E. T. ORNE'S self-regulating gas-burners, stuffed with sawdust. They might also be called gas cleaning burners, for the gas, on its way to the point of combustion, is cleaned of much of its impurity, as the filtering medium attests. It is a good burner.

Dr. ABRAHAM GESNER'S New Work, is advertised by Balliere, Broadway.

Mr. JOHN L. CHEESMAN has brought forward a new invention that will interest gas engineers, viz; wooden trays for purifiers. They are cut from the solid wood, slotted and perforated. Several large orders have been given for these trays and Mr. CHEESMAN has already more than he can do to fill them. See his advertisement on outside page.

Messrs. BALL, BLACK & Co., having removed to their jeweled palace, offer for sale, in addition to their world renowned silver ware, precious stones and *bijouterie*, a superb assortment of gas fixtures, to which attention is invited. It may not be generally known that this is *the only store in America*, and we believe on this Continent, that was visited by the Prince of Wales. The Duke of Newcastle having occasion to call there, expressed his surprise at the gorgeousness of the building and its contents, and immediately expressed his intention of bringing the Prince to see it, which he did on the following day, Saturday, 13th October. H. R. H. was so struck with the elegance of the goods that he left an order amounting to nearly $25,000 to be forwarded to him.

A new gas-works in this State is offered for sale. It is a good opening for a man of moderate capital, who knows how to make gas and sell it. It paid 8 per cent. the first six months. Price $15,000. Address J. P. GERARD, at these Rooms.

WALTON'S anti freezer is again offered to Gas Companies and consumers, on liberal terms. The approaching cold weather admonishes Northern Companies of this indispensable apparatus. See his advertisement.

The Editor of the London *Journal of Gas Lighting* informs us that he is about reprinting Mr. Lewis Thompson's Papers on the Chemistry of Gas Lighting, which appeared in the 2nd and 3rd volumes of that Journal. This work is of great value, and will, doubtless, have a large sale in this country as well as in Europe. It will be sent only to us and for those only who order it. The price is $1 per copy. Orders with a remittance should be sent early to these Rooms.

The Treasury Department advertise through the Hon. the Lighthouse Board for an iron lighthouse for the coast of Florida.

The Niagara Falls Hydraulic Canal Company invite proposals for certain heavy work for that Corporation. To all these advertisements especial attention is invited.

YEARLY TABLE OF GAS-BURNING HOURS.

Showing the number of Hours from Sunset to 10 o'clock at night, for each month in the year—with the average for each month—and the comparative length of the evenings; furnished to this JOURNAL by Floyd Smith, Esq., Vice-President of the Manhattan Gas-Light Co.

Month.	*Total.*	*Average.*	*Comparative Length of Evenings, Hours.*
June.....	76 ho'rs 55 min.	2 ho'rs 34 min.	100
July.....	83 " 52 "	2 " 42 "	109
May.....	88 " 38 "	2 " 51 "	115
August.....	99 " 16 "	3 " 12 "	132
April.....	102 " 47 "	3 " 29 "	134
September...	115 " 24 "	3 " 51 "	150
March,.....	127 " 06 "	4 " 08 "	165
February...	132 " 59 "	4 " 45 "	172
October.....	140 " 14 "	4 " 31 "	182
November ...	153 " 35 "	5 " 07 "	199
January.....	163 " 16 "	5 " 16 "	212
December....	168 " 25 "	5 " 26 "	218

SUNLIGHT IN HOUSES.—The following fact has been established by careful observation: that where sunlight penetrates we are less liable to sickness than in a house where the apartment loses its health invigorating influences. Basement rooms are the nurseries of indisposition. It is a gross mistake to compel human beings to reside partially underground. There is a defective condition of the air in such rooms, connected with dampness, besides the decomposing paint on the walls, and the escape of noxious gases from pipes and drains. All schoolrooms especially should be open to the sunlight, yet, as a general rule, they are darkened like a parlor.

PRESENCE OF SULPHUR IN COAL-GAS.

On page 117 of our last number, the following article was published with so many typographical errors, that we have thought it best to reprint it correctly, for the benefit of those interested.

To the Editor of the AMERICAN GAS-LIGHT JOURNAL:

Your JOURNAL of August 15th, page 54, contains an article from the *Quarterly Journal* of the London Chemical Society, on the presence of Bi-sulphide of Carbon in the London Coal-Gas, and on the amount of Sulphurous Acid formed by its combustion. As the presence of sulphur compounds in coal-gas is considered a sufficient cause for excluding it from libraries, picture galleries, &c., and as even people of delicate constitution attribute to it an injurious effect upon their system, it was considered desirable to ascertain the precise amount of sulphur compounds in the Manhattan Gas which at present fail to be removed by the ordinary methods of purification.

A small jet of gas, seven cubic feet in 24 hours was burnt in a bent glass chimney, surrounded by a cooling apparatus, and the condensible products of combustion were collected in a two-necked receiver, which contained a little pure nitric acid. To retain any trace of sulphurous acid which might escape condensation and oxydation, the air-current had to pass through a glass tube loosely filled with filaments of asbestos, which were moistened with nitric acid. The sulphurous acid being thereby oxydized to sulphuric, it may be safely assumed that no weighable portion of sulphurous acid can have escaped. The quantity of sulphuric acid was afterwards determined in the usual way, as sulphate of baryta. Seven cubic feet of gas gave 0·0675 grammes of sulphate of baryta, which corresponds to 0·132 grammes, or 2·03 grains of sulphur for 100 cubic feet of gas; and comparing it with the London gas, we find:

		Quantity of Gas consumed	Amount of sulphate of baryta in grammes.	Amount of sulphur in 100 cubic feet, in grammes.	grains.
London Gas,	In July, 1859.....	2	0·071	0·488	7·54
	In December, 1859 and January, 1860	2	0·0938	0·644	9·94
Manhattan Gas.....		7	0·0675	0·132	2·03

The quantity of sulphur in the Manhattan gas is therefore less than one-fourth of the average amount in the London gas, and is indeed so small, that all the gas burnt in an ordinary parlor on a winter evening would not produce more sulphurous acid than the brimstone matches employed in lighting it. Even this minute portion could be removed by the consumer if he thought proper to do so, by passing the gas after it leaves the meter, over alcohol containing a little potash. But this probably will not be deemed of sufficient consequence by any one.

We are indebted to the courtesy of Dr. Torrey, the chemist of the Manhattan Gas-Light Company, for the above information, obtained from the records of the laboratory at the Eighteenth street works, belonging to this Company. The experiments were made under the Doctor's advisement, by his talented assistant, Mr. Carl Schultz. Yours truly,

CHARLES ROOME, President.

NEW YORK, Oct. 12th, 1860.

NEW SEWERS TO BE CONSTRUCTED IN NEW YORK.—Last week bids were opened at the Croton Aqueduct Board, for the construction of several down-town sewers, and the awards were as follows: Sewer in Greenwich street, between Harrison and North Moore streets, awarded to Robert and James Cunningham.

Sewer in Varick street, between Franklin and North Moore streets, awarded to John H. McCabe.

Sewer in Forsyth street, between Broome and Delancey streets, awarded to John H. McCabe.

Sewer in 125th street, between Fourth and Fifth avenues, awarded to Daniel Keese.

Sewer in Trinity place, between Rector and Thames streets, awarded to John H. McCabe.

Sewer in Cliff street, between Ferry and Frankfort streets, awarded to Christopher Keyes.

All the above jobs the specifications require to be completed within ten days and three weeks from the confirmation of the awards and acceptance of the sureties.

STRIKE AT THE SAN FRANCISCO, CAL., GAS WORKS.—By the last overland mail we hear that the workmen engaged on the San Francisco new gas works, on the corner of Howard and Fifth streets, struck, and demanded that an hour be deducted from the usual day's work. they have heretofore worked from 6 A. M. till 6 P. M., but They now refuse to go to work before seven A. M., and require the same amount of wages.

REPORTS OF WATER WORKS.

MONTREAL, C. E.

Dr.

To one year's interest on £51,200—Debentures issued for purchase of the old water works	1,288 00	
" Rents	213 00	
" Cartage	284 21	
" Fuel	233 01	
" Taxes	112 44	
" Insurance	72 50	
" Stationery, Printing	937 95	
" Miscellaneous Expenses	399 69	
" Materials	637 18	
" Tradesmen's Accounts	587 72	
" Staff at wheelhouse	3,940 00	
" Salaries	3,200 00	
" Repairs	10 125 53	
" Legal Expenses	1,616 30	
" Profits for the year	65.011 21	
		$99,658 74

Cr.

By Cash for rent of houses	1,229 68	
" do from Water Rents	96,357 42	
" do. from Water Taps	1 678 59	
" do. from other sources	393 05	99 658 74

LIABILITIES AND ASSETS.

Liabilities		2,477,560 89
Assets—		
Old Water Works purchased	175,435 77	
Improvement of Works, new main and service-pipes, &c	192,110 60	
Sundry obligations due to this Department	88.374 19	
Cost of New Water Works	1,548,389 25	
Cost of pipes, hydrants, &c	304.046 10	
Miscellaneous Assets	199.201 98	
		2,477,560 89

January 31, 1860.

DETROIT, MICH., WATER-WORKS.

There is a certain line of distinction to be drawn by the initiated between those engineers who follow their professional avocations for the love of the pursuit, and those who specially admire the item of salary. And in attention to certain details, in special calculations, in the discussion of results in construction, accidents and the like, the calibre of an engineer generally makes itself known. The reports of some of our engineers are lamentably deficient in these respects on some of our most important works, and statistics of the most essential kind are neglected, as troublesome additions to ordinary official duties. Items of aggregate and annual cost and receipt, population increase, and family subdivisions, rainfall, consumption, engine-duty, experiments, tabulated statements, historical notices, and other information, may be given or neglected, in such a way as to show the presence or absence of true professional education and pride.

Mr. Graff, formerly of the Philadelphia Water Works, and his successors, Mr. Houghton, of the Detroit Works, and a few others, deserve much credit for this kind of attention to details which are in one sense independent of the mechanical routine of an Annual Report, but are of great value to the civil engineer who is engaged in hydraulic constructions.

The Detroit report for 1859 makes the following statements:

Consumption of water for 1859		2,142,774 galls.
Average daily consumption per person		30⅛ "
Cords of wood used	1,785	
Value of "	$2.194	
Average engine duty for full capacity of pumps, per lb. of coal, taking 857 tons net, as equivalent to the wood		373,444 ft. lbs.
Average effective duty		319,183 "
Difference, as loss of action of pumps		14·72 per ct.
Engine duty for 1853		196,778 ft. lbs.
Iron Distribution pipe, 30"		327 feet.
" " 24"		14,143 "
" " 12" to 20"		2,417 "
" " 6" to 10"		53,466 "
" " 4"		114,975 "
" " 2" to 3"		16.202 "
Total		38 890-5280ths miles.
Wooden Logs 2¼" to 8"		22 4955 5280ths "
Fire Plugs		238
Street Reservoirs		103
Stop-Cocks		363
Daily capacity of Works		7,000,000 galls.
Cost of "		$271,000
Annual water-rate receipts		$48,779
" expenses (ordinary)		$13,097
" net income		$35,682
On $271,000		13·66 per ct.

These statements refer to the works now in use, and do not include the works under construction and unfinished.

Since 1856, Detroit has been rebuilding her water-works. She was then supplied by two high-pressure direct-acting engines—one of 12½-inch cylinder, 6 feet stroke, with a 12 inch double-acting pump of same stroke; another of 8 feet stroke, with 20½-inch cylinder, and 18 inch pump. These engines are connected with a tower, on which a tank was constructed, giving them about 70·6 feet pumping lift. By the new plan a reservoir is constructed with an elevation of 77·5 feet, a new engine house is built, and since July, 1856, a pair of "square" engines have been under contract, but appear to be yet unfinished. They have been guaranteed to do *one hundred millions* duty, and have consequently attracted the attention of engineers who know the distinction between fictitious and absolute "engine duty," particularly as the engines under contract are of a novel character.

The Report contains a statement of the regular annual increase in "engine duty" since 1853, the difference for 1859 being about 100 per cent. This is accounted for partly from the fact that the engines have been kept more steadily at work, to meet the increasing consumption of each successive year, which varies from 503,531,743 gallons in 1853 to 782,112,587 gallons in 1859. In 1853, the average running time was 8 1 3d hours per day, and 14 2-3d hours in 1858. Improvements in the condition of the boilers and engines also have effected this result. We are not prepared to agree with another reason given, that a reduction in steam pressure has increased the duty, the cut-off being the same, as the contrary result is a matter of frequent demonstration. It is cheaper to make high steam than low steam. The volume equivalent to 14·7 lbs. pressure is 1.700, while for three times the pressure it is 622, instead of 566, and for six times the pressure it is 332, instead of 283, while the total heat in the steam space is practically the same for all pressures, and the radiation is, consequently, of very little difference. In firing, also, the state of the water and other conditions of management, and in superheating, there are additional sources of economy in high pressure which largely counterbalance the loss by wire-drawing at the throttle.

Some trouble was experienced with the inside slopes of the new Reservoir. The embankments are artificial, some thirty feet high, made principally of clay, with inside puddle walls, and with a face lining of brick, laid on their edges, the bottom paving brick being laid flat. The brick lining on the upper part of the slopes is said to have been "purposely laid temporarily."

A natural result ensued. The reservoir being filled with water, with a face lining to the banks which was not water-tight, the banks became saturated, and their material was softened. The inside slope was one and one-half to one, the slope of the puddle wall, which defines the pressure of the inside bank, being about one-third to one, and when the water was drawn off, the entire inner bank slid out.

We are surprised to notice that the remedy proposed and adopted for this difficulty is the use of "slope walls of *dry* stone masonry." Evidently the material which composes the inner bank does not retain its cohesion when saturated with water, and the dry stone wall furnishes no protection to it from water action. What these banks need is absolute protection from the water, which can only be had with tight brick work, or carefully laid cement rubble work. We know of no reservoir in the country, lined with dry stone work, no matter how thick the wall may be, which successfully resists the action of the water, as to its inner bank, and compares in line, appearance and stability with brick-work, or any other water-tight work properly constructed. The theory is very simple; if we can make an earth, gravel or clay bank, with a slope at the angle of repose, no protection wall is needed; but if, as is the case in all artificial reservoirs, the greatest capacity is required with the least area, slopes steeper than the angle of repose are built, and require to be protected not only from the wash of surface waves, but from the solvent action of the water, and the action of frost. We hold it therefore to be capable of abundant demonstration, in theory and by practice, that all artificial reservoirs should be lined with water-tight walls. It cost the responsible parties of the Brooklyn Water-works a large sum of money and much loss of time to try the experiment on the Ridgewood Reservoir, by abandoning the contract system arranged for it, with three inches of concrete and eight inches of brick work, and substitute a dry stone wall, which speedily lost its earth and puddle-backing, and had to be relaid and grouted with cement. There are many cases of construction in point on this subject, which ought to have been anticipated in theory.

The average rain fall at Detroit is reported for 1859, at 33·65 inches, and for 1858 at 40·4 inches. In 1855 it ranged as high as 71·889 inches.

The total expenditure on the new works, yet incomplete, is $589,506.

The total receipt for the works since 1838, is $353,571.

The number of families now supplied is 6,794, the increase since 1854 being 3,054.

The total value of real and personal property in the city is $28,141,591.

The population for 1854 is stated at 40,073, and estimated for 1859 at 70,000.

During 1859, 181 families have received permits for the free use of water, the Director of the Poor having certified their inability to pay. This is a novel feature in the range of corporate charities, although free hydrants are by no means uncommon.

The engineer of the works is Jacob Houghton, jr.

—

We notice from an account at length, in the columns of the *Free Press*, of the Detroit Water Works, that the engines will remain under the contractor's charge until prepared for the trial on which the allotment of additional pay of $25,000 is contingent. The severity of this trial in which the coal account is to be charged with the quantity used in *getting* up steam, and the friction *due to the engine* is not included in the calculation of equivalent head, taken in connection with the high range of duty guaranteed by Messrs. Dickerson & Sickles, has attracted the attention of civil and mechanical engineers interested in water works. The measure of duty is 1,000.000 pounds of water, determined by actual measurement of delivery, raised one foot with one pound of coal. Although the engines have been under construction for four years, the contractors deserve credit for their confidence in this undertaking, and will be entitled to much consideration in case of success in the attainment of this duty, dutifully certified by competent experts.

These water works have been passing through a system of gradual improvement since 1837. The Board of Commissioners, appointed February, 1852, have inaugurated the more extended plan, now nearly completed, in which the new engines are an essential feature.

The new reservoir contains two basins, about two hundred feet square at the top, with a total storage of 7,592,704 (imp.) gallons. To remedy a difficulty which resulted from the construction of an open lining of light brick-work, causing a slide in the banks, a massive stone abutment is built at the base of the inner slope, against which "a stone wall, laid loose in sand, is constructed, measuring about six feet in thickness at the base, and gradually tapering to two and a half feet at the top. The design of this wall is not to prevent the saturation of the banks," the reporter explains, "as it is a well-established fact that masonry will not prevent the passage of water, but simply to put an immovable weight upon the banks sufficient to hold them in their proper position. The explanation will be interesting to the profession, and it is much to be desired that the banks will faithfully sustain their superincumbent guardian. A moderately additional increase of its expense, for a face wall of cement brick-work, would very much enhance its chances of durability. In the reply of Mr. Craven, of the Croton Board, to the charges of Mayor Wood, to whom the most ample notice has been given by the press of the country, speaking of the change in plan made during the construction of the new reservoir, from dry stone lining to cement work, he says:

"It is proper to state in this connection, that a wall of stone laid in hydraulic mortar, in the manner in which this is done, is better for the purposes for which it was designed than *any dry wall* which could be constructed of *any stone whatever* of equal dimensions."

In this respect the engineer of the Croton Board is undoubtedly correct, and it is a very fortunate circumstance for that structure that the specifications for its original construction were not carried out. No reservoir experience in this country, or in Europe, justifies the use of dry wall lining on *artificial slopes*.

The average consumption of water during the past year was 2.142,768 gallons, or about one-third the reservoir capacity. The engines are calculated to pump 6,000.000 gallons per day.

The engines are direct acting, fly wheel, condensing, with cylinders 28 inches in diameter, and 8 feet stroke. The valves are "single puppet," so used to save steam in the chests. The balance-wheel weighs is 32,000 pounds, the diameters being 14 feet. The cylinders are connected at right angles to the driving shaft overhead, on which three cams operate the pump rods. The pumps are telescopic with double beat valves, 45½ inches diameter, 40 inches stroke, discharging 6,000.000 gallons per day with 19·5 revolutions per minute. A water cylinder is used to operate the cut-offs. The boilers are double-return drop-flue, two in number, 30 feet long, 7 feet diameter, with 16 and 18 inch flues. As they are intended for the use of high steam, the plates are half-inch thick.

The total amount of distribution pipes is 61 1-9 miles, of which nearly 23 miles are of wood. At this period of wholesale cast iron practice, and since 1857, wooden logs of 2½ and 3 inches diameter, to the extent of 77,498 feet, have been laid. The aggregate cost of the distribution is $370,000. Four-inch iron pipe is laid to the extent of 114.975 feet, with 15,894 feet of 3-inch pipe. Experience, which our cities and villages are purchasing at a very dear rate, will not fail, in due time, to impress the Detroit Commissioners that when all their other improvements are completed, it will be time to reconsider and renovate this branch of the supply.

We make these comments in this running notice of a newspaper report, not because the Detroit works are specially open to criticism, as exceptional cases, but because the general questions of engine construction, reservoir lining, cast iron water pipes of small calibre, and the like, are matters of great importance, and need the most ample discussion, for which individual cases of this kind furnish proper themes.—*American Railway Review.*

WATER WHEELS AT THE LAWRENCE, MASS., MILLS.—The following wheels are used at these mills:

Atlantic Cotton Mills	4	Turbine	105 inches.
Pacific do.	5	"	72 "
Washington Woolen do.	5	Breast	26 feet.
Do. Cotton do.	2	"	24 "
Pemberton do. do.	3	Turbine	72 inches.
Lawrence Dock Company	2	"	60 "
Everett Mills	3	"	96 "
Merrimack Paper Mills	1	"	48 "
Crystal Spring Paper Mills	3	Parker	

All these mills are warmed by steam, and lighted by gas made at the Lawrence Gas Works, which produced last year 10,000,000 cubic feet gas, 40,000 bushels coke, and 250 barrels coal tar. They employ 3,737 females, 2,578 males; represent $7,150,000 capital; run 218,002 spindles, 5,441 looms, and their monthly pay roll is $100,000.

IS A KEROSENE OIL FACTORY A NUISANCE?—Mr. H. O. Jones, proprietor of a kerosene oil factory, at the foot of Rush street, Brooklyn, New York, was examined this morning before Justice Cornwell for violating sections 23 and 24 of article 4, chapter 5, of the city ordinances, by maintaining a nuisance detrimental to public health. The specifications of the complaint are that in baling the oil an offensive gas is created, which is detrimental to public health. Several witnesses were produced to testify. The action is in the form of a suit of recovery for the penalty of $100. The suit is still pending.

CONSTITUTION AND BYE-LAWS OF THE MONTREAL NEW CITY GAS COMPANY'S WORKMEN'S BENEVOLENT ASSOCIATION.

GAS WORKS, MONTREAL, 1st Jan., 1860.

Whereas an Association has been formed in this city by the workmen of the New City Gas Company, for the purpose of affording relief to its members who may be, from sickness, unable to discharge their duties while in the employ of the said Company, by allowing them a weekly benefit during their illness, and a certain amount to the relatives of those who may die, to defray the expenses of their funeral, the members of which, for the better regulation of its affairs, have adopted the following as the Constitution, Bye-Laws, and Rules and Regulations:

1.—The Society shall be called the "*Montreal New City Gas Company's Workmen's Benevolent Association.*"

2.—There shall be a President, Vice-President, Secretary, Treasurer, and eight Members of a Committee appointed yearly, whose duties will be to meet the first Friday of each month, to take charge of the money received during the month, and give a detailed account of all monies paid out during the year.

3.—The duty of the President will be to take the Chair at all meetings, whether Special or Regular, and not allow any improper language to be used, nor interruption of another when speaking. And in the absence of the President and Vice-President, a Chairman will be named from the Directors.

4.—The duty of the Secretary will be to keep the Minute Book and receive the Members' contributions, which he will hand over to the Treasurer, receiving from him a receipt for the same, and to keep an account of monies received and paid out during the year.

5.—The duty of the Treasurer will be to receive all monies from the Secretary, and place the amount in one of the Savings Banks of this city, in the name of the "New City Gas Company's Workmen's Benevolent Association," and no money shall be withdrawn without the signatures of the President and Treasurer, and countersigned by the Secretary. It will also be his duty to exhibit his Bank Book at every meeting of the Board, and furnish a statement of the funds of the Society.

6.—Each member shall pay the sum of 12½ cents per week for the benefit of the fund, to the Secretary, and handed over by him to the Treasurer, who will give a receipt for the same.

7.—In case any of the members fall sick or receive such injuries as may prevent them from attending to their usual occupations, they shall receive the sum of $3 per week as long as they are unable to work, but not without a doctor's certificate, testifying to their inability of attending to their duties; and no member shall have a right to this benefit unless he has been employed by the Company one month, and paid the sum of 12½ cents per week during that time, and signed the Bye-Laws.

8.—In the event of the death of a member, from accident or other causes, while in the employ of the said Company, a Funeral benefit of $32 will be paid to his wife or nearest relative; or should his wife die, he shall receive $20 to defray the expenses of the funeral, and at each death, each and every member will pay a contribution of 25cts to the general fund.

9.—If a member is discharged, or otherwise leaves the Works after paying to the fund for the period of two years, without receiving any benefit from the Association, one-third of his instalments shall be refunded him, that is, provided there be at least Forty Dollars in the funds.

10.—No member can receive any benefit who may have brought sickness on by intemperance or dissipation of any kind, and if any attempt to impose on the Association is discovered, his name will at once be erased from the books, and he himself expelled from the Company's employment.

11.—It will be the duty of the Committee to provide the services of a competent Doctor to visit the members who may at any time fall sick who will report whether or not they are fit to attend their daily employment.

12.—If a member is two weeks behind in his contribution, he shall not be entitled to receive any benefit whatever; but will have the right to be re-instated in all his privileges, at the end of four weeks, by paying a fine of five cents per week.

THE RIDGEWOOD PUMPING ENGINE.

Rousseau has said that "it requires a great deal of philosophy to observe once what may be seen every day." Conscious ease of access, and a general familiarity with some of the more wonderful of the agents employed by modern civilization, render the people indifferent to many objects of rare and curious interest. The strange, the distant, and the difficult attract attention, while things near and easy to be seen are passed by and neglected. While travellers from every part of the world resort to the Falls of Niagara to contemplate the sublimity of their scenery, it is said, nevertheless, that there are people living within sound of the thunder of the cataract who have never looked upon it. It is so near home that it is thought unworthy of a visit from those who might behold it, if they chose, on almost any day in the year.

A few days ago we visited the Pumping Engine of the Brooklyn, N. Y., Water Works, situated south of the Reservoir, in the plain between East New York and Cypress Hills. A registration of the names of visitors, kept in the office, showed that comparatively few Brooklynites or New Yorkers had thought it worth their while to inspect the mammoth machine which transmits the water from the receiving-well to the twin reservoirs on the heights above. And yet it has been truly said that there was nothing in the machinery of the Great Eastern that equalled the immense engine of the Brooklyn Water Works. But the Great Eastern had crossed the ocean, and the Long Island engine had only crossed the East River; hence the curiosity to see the one, and the comparative indifference shown the other. A few facts concerning the power that draws water daily for 285,000 people may be here briefly given.

The main pumping engine of the Brooklyn Water Works was built by Messrs Woodruff & Beach, of Hartford, Conn., and contains no less than 460 tons of iron. This immense mass of metal has been melted and cast and forged and polished into a double-acting Cornish engine, whose movement is as quiet and exact as that of a watch, but whose power almost defies an estimate in figures. As one enters the building which contains it, he observes nothing, hears nothing, to excite special attention, beyond the oscillations of the huge working beam; not until an examination of its parts, and a study of its capacities, have been begun, does this great giant seem the giant it really is. It is driven by three boilers, each thirty feet in length and eighteen feet in diameter, furnishing a power equal to that of 1,500 hundred horses. How this power employs itself can be inferred from the fact that with every stroke of the piston 1,050 gallons of water are raised, or about thirty-two barrels. 9,000 gallons are raised in a minute, and of course 540,000 in an hour, being equal in bulk to the contents of 1,333 barrels. The water thus raised is elevated 160 feet above the well, and is forced a distance of 3,400 feet to the reservoir. But this brave engine toils at its huge task without a groan or a shudder, and seems to do its work with as little effort as a boy would use in tossing up a feather. To keep up its courage, and warm its zeal, it is supplied with seven tons of coal per day.

The cost of this Herculean hydropult was $80,000. It is under the intelligent care of Mr R. W. Hamilton, a gentleman thoroughly familiar with its construction, and the method of its working.

THE WATER-GAS WAR.—The vicinity of the Girard House was, on Thursday, October 12, the scene of some excitement among the employees of that establishment and of the City Gas Trust, arising from the effort of the latter to stop the supply of coal-gas to the hotel. The lessees of the Girard House have been for several years among the largest private consumers of gas in our city. Public-spirited gentlemen as they are, they were willing to afford Sanders' water-gas a fair trial and, having witnessed a satisfactory exhibition of it at the Market-street works, they undertook the construction of a small water-gas works on their own premises, not for a moment dreaming that the same liberal spirit of accommodation which prevails in the private gas companies of New York would be found wanting in the public trust of Philadelphia. Some time in the Spring, the gas-fitter employed by Messrs. Presbury, Sykes & Co., applied for the usual permit from the gas office to make the requisite connections with the pipes of the house. The permission was granted only upon condition of the immediate withdrawal of the city metres. The effect of such withdrawal (it was well known and desired by the gas office), would be to bring about a partial or entire darkness in the establishment, temporarily, whenever a renewal or repair of any portion of the water-gas apparatus might become necessary. Such darkness would afford the opportunity, ardently desired by some, to disparage the water-gas in popular estimation, and perhaps to disgust the parties who had countenanced an innovation that might destroy the coal gas monopoly.

A compromise was, however, agreed upon between Messrs. Presbury, Sykes & Co., and Prof. Cresson, to the effect that if certain stop cocks were placed upon the metre outlets, the keys of the locks upon such stop-cocks might remain in the custody of the proprietors. Considerable expense was incurred by the proprietors in fulfilling the stipulations made by Prof. Cresson, which were no sooner accomplished than Prof. Cresson took away the keys. Notwithstanding an exact observance of the terms of the arrangement, the opposition to the manufacture of gas at the hotel from the gas office has continued and manifested itself in various shapes, until the day before yesterday, two of the city metres were clandestinely removed, and the withdrawal of the rest threatened. No remonstrances or representations of the proprietors were heeded, but yesterday morning the attempt was made to remove the remaining metres. Messrs. Presbury, Sykes & Co. resisted, as men who knew their own motives and rights would do, whereupon the employees of the gas trust essayed a little "sharp practice," by sending a posse of laborers to dig up the gas pipes in Chestnut-street and cut off the flow of city gas from the street mains. At this point, however, Judge Thompson arrested their high-handed and oppressive proceedings, with an injunction, to which submission was made very reluctantly, with muttered threats and angry scowls. The crowd of bystanders who had witnessed the progress of the conflict, and whose sympathies with the water-gas party had been evoked and expressed, left the scene well pleased, with the assurance that there is some recognition by our legal tribunals of individual rights in this matter of the supply of light to a community that has been too long kept in the dark.—*Philadelphia Inquirer.*

A NEW RIVAL TO GAS-LIGHT.—A Yankee down-east is inventing a new machine for bottling up sun-light, and says he has got it—almost. Before this invention, gas may well "pale its ineffectual fires."

THE VALUE OF COAL TAR.—It is but a few years since coal tar, the product of the distillation of coal to extract gas, was deemed worthless, and thrown away in large quantities. It was finally ascertained that it possessed good qualities as a coarse paint for iron—and a little of it was used for that purpose. The chemists were at last led to examine this apparently worthless article, and see what could be made from it. The results of their investigations have been astonishing. From it are now extracted an oily substance, which, under the various names of coal oil, kerosene, &c., is largely used for illuminating and lubricating purposes; a pure and beautiful, almost transparent, wax-like substance, known as paraffine, from which are made the finest of candles; a fluid, benzine, which possesses extraordinary properties as a solvent of oils, and many medicinal virtues; a still more subtile essence, the mirbane, whose extraordinary powers are but partially developed; a purple dye, of moderate cost but permanent color; two shades of crimson and purple, known as Violet and Carmine Aniline, one of which is the popular and beautiful *Mauve* or *Magenta*, so generally worn by the ladies the present season; and, finally, a Rose Fuchsine, a coloring matter of the hitherto matchless tint of the Fuchsea, so precious that no previously known color equals it in price.

The following list of prices, at which those various products are sold in Paris, indicates what stores of wealth the chemist has found in this once valueless article:

	₱ lb.		₱ lb.
Coal	$0 00½	Nitro-Benzine rectified, or the Essence of Mirbane	$0 96
Coal Tar	0 01	Common Aniline	3 60
Crude Oil	0 02	Violet & Carmine Aniline	6 00
Refined Oil	0 10	Rose Fuchsine, pure and in powder	320 00
Benzine	0 20		
Crude Nitro-Benzine	0 56		

The last is equal to the price of gold. And so, says M. Parisel, from coal carried to its tenth power, we have gold; the diamond is to come.—*New York Examiner.*

SERIOUS DAMAGE TO THE BUENOS AYRES GAS WORKS.—On the 29th and 30th August, the days of the festival of Santa Rosa of Lima, a terrific gale was experienced in Buenos Ayres, S. A., which did an immense amount of damage to the shipping and on shore. The sea washed away the north and south walls of the gas works, inundating the whole interior, and damaging the works to such an extent as to leave the city in total darkness. The papers deplore the loss of the gas, as they report it will take several days, perhaps weeks, before the gas works can be repaired.

TWO MEN SUFFOCATED BY FOUL GAS IN A VAULT.—About twelve o'clock, the 23d ult., a party of German night-scavengers were at work in a vault in the rear of No. 27 Roosevelt street, when one of their number named Conrad Tissing, descended into the vault and was suddenly overcome by the noxious gases and fell. George Shultz went to his assistance, but was also prostrated. The rest of the party at length succeeded, by means of ropes, in extricating their companions, who were taken to the Fourth ward police station-house. Dr. Wells was called and rendered medical assistance, but his efforts were unavailing. Shultz died about six o'clock this morning, and Tissing expired two hours later. One of the scavengers who went down into the vault to put ropes around the men, found his hand discolored as if by some chemical substance.

SEWER ACCIDENT IN BROOKLYN, N. Y.—A man whose name could not be ascertained, while at work in a sewer in High street, between Pearl and Adams [illegible] severely injured by the falling of a quantity of earth and a heavy stone. He was carried to the City Hospital. The manner in which this sewer is being constructed is a subject of great complaint, in consequence of the careless manner in which the earth is secured. It is also alleged that no light is put up of a night to warn pedestrians of the sewer building, and that several accidents have occurred in consequence of such neglect. A stiff bill of damages would bring the contractors to their senses.

EXPLOSION OF COAL ON BOARD THE CONNAUGHT.—It is supposed that the cause of the firing of the steamship Connaught on the 7th ult., was the spontaneous combustion of the bituminous coal, from the heat evolved in the decomposition of the sulphuret of iron which it contains.

Even at the entrance of the pits the slack or refuse coals in which decomposition has been hastened by the heaps being saturated with rain are frequently to be seen in combustion from this cause. If, as there is reason to believe from the statement of the captain, the fire had been smouldering in the coal bunks for some time, the expansion of the vessel's plates by the heat unquestionably occasioned the leak. We do not see how in any other way such an accident in a new and substantially built iron vessel could have occurred.

Several English ships have been destroyed by fire from this cause.

THE GAS WORKS OF PHILADELPHIA, PA.—The different gas works of the city are now producing about one and a half million feet of gas per day. This amount is over ten per cent. greater than at the same period last year; the increase being necessary in consequence of the great number of new consumers in the suburbs of the city, where hundreds of houses have been erected the present year. The demand will be still greater, as soon as the loan is created to pay for putting in service pipes and meters.

CORRESPONDENCE.

THE RECONCILER METER.

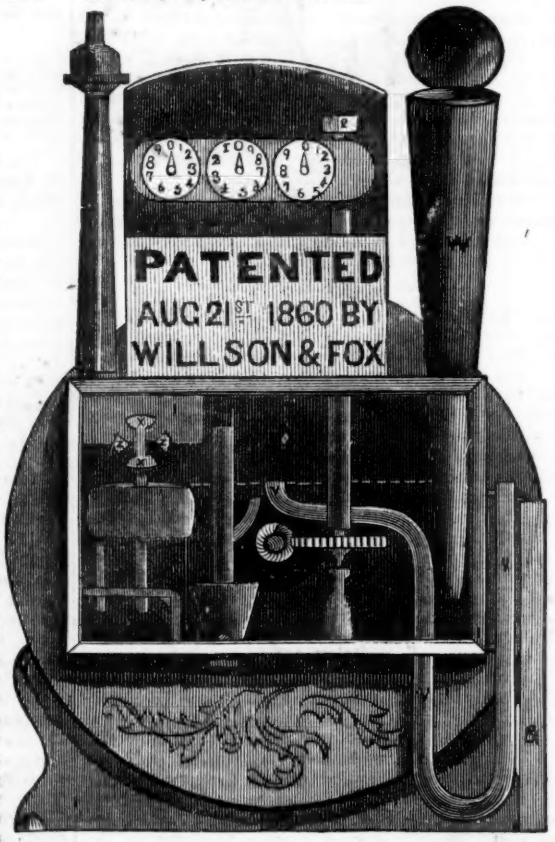
To the Editor of the AMERICAN GAS-LIGHT JOURNAL:

Permit us through your columns to notice an article over the name of "Engineer," in your issue of September 15th. Engineer has labored very hard in his learned references to forestall the introduction of the "Reconciler Gas Meter," and we herewith submit a cut of our improved meter, to afford an unbiassed community (as we do not expect to meet with favor with all the meter manufacturers, their interest being averse to ours, they being largely interested in the dry meter), to judge how near it is like the multitude referred to. We presume the sketch given in Engineer's article is the nearest thing his learned and labored researches could produce of all the American or foreign manufactures referred to; as far as we are informed not one of them bears any resemblance, none of them having used an open filling tube or an open discharge in the manner set forth by us. Laidlaw, who is referred to, uses a filling tube with a valve and spring in it, which is too low to overcome the pressure of gas inside of meter, and puts instructions on his meter—not to attempt to fill his meter without first turning gas off from meter. Hammond of Philadelphia put a screw top to his filling tube, and his discharge tube is an inside arrangement, not sufficient to stand the pressure of many works, and used with a screw to prevent a discharge of water from the tube, unlike ours entirely. The syphon in Engineer's article cannot be used without a screw, as it will discharge before any other part, and permit, as he says, gas to escape. We are aware that much labor has been spent to produce a meter such as we have in the "Reconciler;" but as yet we find none, until ours, that is alike safe and convenient to both gas companies and consumers.

V is an open discharge-pipe, which has sufficient seal to stand three times the pressure, and can be increased to any amount desired, that any works properly managed pretend to work under. *W* is a filling tube, contracted at the lower end, to prevent water from being poured in faster than the discharge-pipe will carry it off, so that the dry well cannot be overflowed, so that it can be filled as well by a child as by an experienced person, and is a movable waste-water box, used only in certain locations. All that is claimed for the "Reconciler" in your number of September 1st, and much more, we are prepared to demonstrate. We are now adding two improvements, one of which acts as a pressure regulator, and also prevents the water from working or supplying gas when tipped forward, with a view of cheating gas companies, and the other to prevent the drum of meter from being pierced at the outlet. Lastly, we will notice the objections of Engineer, which are entirely supposititious: first, he says it is possible, by the pressure of gas to blow thewater out of the syphon. We admit if the overflow tube around the shaft, which passes the dial-box, would not discharge the water in meter at one-half the pressure that it will take to discharge the water out of the syphon, as used by us, there would be danger; also, if the filling-tube well overflow at a little more pressure than it takes to overflow tube passing to dial-box, either of which lets the inlet valve shut by the float sinking, and cuts off the supply of gas from meter at one half the pressure necessary to discharge the water from our syphon; which we, and every practical gas engineer (not assumed ones) think is safegard sufficient at that point; second objection of Engineer is that consumers may blow out the water in our syphon, and make an attachment, and consume gas without being measured. This is not so easy a matter as Engineer would make it appear with our form of the end of syphon, there being no screws at the end as in those we refer to; and if consumers wish to get gas without paying for it, they have much easier ways of getting it with the old meters, first, by drawing water out at side screw, reducing register 10 to 20 per cent., and by making an attachment to the dry well, *without blowing out any water*, there being a screw already prepared to make the connection to, and by tipping the meter, which our last improvement prevents. We take pleasure in referring gas companies and engineers to Messrs. Code, Hopper & Gratz, and Harris & Brother, of Philadelphia, as our agents, who are manufacturing new and altering old meters, with our improvements attached. Meters will be sent where desired upon trial to speak for themselves. References of the highest character can be given if necessary.

Respectfully yours, WILLSON & FOX.

READING, Pa., 10th Oct., 1860.



WINCHESTER, VA., WATER WORKS.

WINCHESTER, Va., Aug. 18, 1850.

To the Editor of the AMERICAN GAS-LIGHT JOURNAL:

I have filled the blanks in the circular as fully as the space would admit, but for your further information I will state more at length. This is the old town from which General Morgan started for Boston and Quebec with his rifle corps. At the north end of the town stand the remains of Fort Loudon, once occupied by Braddock. The town was laid out by Lord Fairfax some years previous to 1752. In 1752 Colonel James Wood laid out an additional number of lots, extending from north to south, and from the west side of the town, laid out by Lord Thomas Fairfax, westward, embracing the spring from which the town is fully supplied with the best and purest of limestone water. The grant by him to the town was about the year 1800; the country was then heavily covered with timber, and the citizens and corporation, in the year 1808, introduced the water by wood pipes at a small cost, as each property holder was required to open the ditch to receive the pipes. In 1829 the wood pipes were removed and the iron pipes substituted at a cost of about fifty thousand dollars, at the expense of the corporate authorities, who issued coupon bonds to that amount. The tax on the water has been appropriated to liquidate the debt, which has been reduced to $36,600 The reservoirs are erected only for the purpose of giving an additional supply of water in time of fire. The supply of water keeps in operation some five or six steam engines, a steam flouring mill, and four tanneries. I have a model of a hydrant which I have not been able to get constructed into a perfect model for want of a competent workman. It wastes no water, and can be removed and repaired without digging.

Yours, truly,

W. G. RUSSELL.

NEW BRITAIN, CT., WATER WORKS.

NEW BRITAIN, Ct., Oct. 23d, 1860.

To the Editor of the AMERICAN GAS-LIGHT JOURNAL:

I send you our last report on the water works, and return you the interrogatories answered. These are, perhaps, the most efficient water works in the country, the head being generally over the town about 200 feet, and the supply of water abundant. It is taken as fast as the means of the people will admit. It will take two or three years more to reach the whole population. These pipes were laid by the Patent Water & Gas Pipe Company, Jersey City, and are altogether satisfactory. The extension of five miles in 1858, has never resulted in a single leak. A portion of the five miles laid in 1857 was carelessly laid, and repaired at the expense of the contractors. The whole line is all right now. The only water works in Connecticut are—*Hartford*, *Bridgeport*, and *this place*. In Massachusetts—*Boston*, *Charlestown*, *Plymouth*; and *Pittsfield* and *Rockland* in Maine.

Respectfully yours. F. T. STANLEY.

MONTREAL NEW CITY GAS COMPANY'S WORKMEN'S BENEVOLENT ASSOCIATION.

GAS WORKS, MONTREAL, C. E.,
22d Oct., 1860.

To the Editor of the AMERICAN GAS-LIGHT JOURNAL:

On the 1st of January last I formed an association or benefit fund among the workmen of the New City Gas Company, under the patronage of Louis Beaudry, Esq., the managing director of this company, and I am happy to say it is going on well ever since, as we have about two hundred dollars in the savings bank, besides paying out fifty-six dollars for sickness, &c. I send you a copy of the By-laws, and if you should think it worth the notice of the gas managers of the United States, you may publish it at your earliest convenience, with your own comments.—I remain, dear sir,

Yours truly, JOHN MCELROY, Sup't.

On page 139, our readers will find this document printed *in extenso*.—ED.

FALLING OF THE ROOF OF THE CITIZENS' GAS-LIGHT COMPANY'S RETORT HOUSE, BROOKLYN, N. Y.

At a quarter before 12 o'clock on Wednesday night, October 25, the roof of the new retort house of the Citizen's (opposition) Gas-Works fell in with a loud crash, admonishing the neighbors of the last general break-up, and initiating a scene of ruin and destruction of property that will require some time to repair.

The retort-house was in course of erection, built of brick, on the spacious premises near Gowanus Creek, 60 feet front, by 200 feet long, and 28 feet high. The foundations are about 5 feet deep and 3 feet in thickness, and the walls 16 and 20 inches thick. A portion of the retort benches were finished, some twenty-two benches of five retorts each being ready for the charge. The walls were secured with iron braces, which appear to have given way when the roof fell, and a portion of the walls fell with it.

The roof was what is known as a hip roof, trussed in the usual manner. Various causes are attributed for the accident, but as they are under investigation, we do not feel at liberty to express any opinion on the subject at present. The loss will probably reach the sum of $10,000, which would naturally fall on the contractors, Messrs. Gilbert & Fairchild; but they resist the responsibility, on the ground that they acted with the co-operation and sanction of the Company's engineer, and under his daily inspection. Of the truth of this latter statement we are not informed.

The lighting-up of the Citizens' gas-district, will not be delayed, as a temporary roof will be erected to protect the benches, and the lighting-up will take place in the latter part of this month.

Fortunately no lives were lost by the accident, the fireman and watchman being the only persons on the premises, and they escaped uninjured. There was no gale nor wind; the night was a fine moonlight, and the roof fell simply of causes within itself, whatever they were.

The following letter from the engineer of the gas-works to the Editor of the New York *Herald* will explain itself:

BROOKLYN, Oct. 26, 1860.

In the edition of your paper published to-day, your reporter, in noticing the accident of the falling of an iron roof of the retort-house, lately erected for the Citizens' Gas-Light Company, of Brooklyn, has been led into an error in assigning as a cause of the accident "the use of iron of too light weight." An inspection of the plans and specifications which were made for this work will convince any unprejudiced person conversant with such matters that the combination and size of iron specified to be used is of ample strength for the purpose. No new principle was involved in the construction of the roof, and had the material used been of good quality, and properly put together this accident would not have occurred. Upon an examination of the roof after the accident, some rafters were found to have been parted where they had been welded together, and by careless forging had been deprived of one-half their strength. After the roof had been erected, several weeks were occupied in endeavoring to bring it into shape, and in vain attempts to remedy errors of workmanship. I have only to add that it is my intention to construct another roof after the same design, bnt of proper materials and workmanship. The cause of the falling of the roof in question will then be clearly indicated. Yours respectfully, TYLER SABBATON,
Engineer Citizens' Gas-Light Company.

To this communication the following rejoinder has been made by the parties who furnished the iron work:

The falling of the roof at the works of the Citizens' Gas Light Company, in Brooklyn, has been the cause of several editorial and correspondence misrepresentations, all of which I had intended to pass unnoticed, had not the acting engineer, Mr. Tyler Sabbaton, under his personal signature, this morning, seen fit to give his official endorsement to them, and thus attempt to prejudice the public mind against the Trenton Locomotive and Machine Manufacturing Company, before an investigation by competent engineers and experts in the business shall have been made, and the fault placed where it properly belongs. I, however, venture to predict that Mr. Sabbaton will not attempt the erection of that or any other roof of similar dimensions, with the same amount of material at the points to which I called his attention before the work of construction had been commenced, and repeatedly during the erection. If he does he will be guilty of a hardihood not profitable to his company, or creditable to himself. The iron is all of American manufacture, made by two prominent and responsible houses—one of them a leading firm in the city of New York.

A. H. VANCLEVE, Pres, T. L. M. M. Co.

NEW-YORK, Oct. 27, 1860.

In addition to the above, we are informed, by reliable authority, that parties of undoubted responsibilty, have offered to construct a roof, in every respect conforming to the original plans and specifications of Mr. Sabbaton, and to guarantee its bearing three times the weight to which the fallen roof was subjected

PATENTS.

Inventors are informed that Patents are procured at the Rooms of the AMERICAN GAS-LIGHT JOURNAL, through F. C. TREADWELL, Jr., Esq., an experienced Patent Agent and Expert, in the United States, and in all other countries where Patent Laws are in force.

UNITED STATES.

30,194.—W. B. Billings, of New York City, for an Improvement in Vapor Lamps:

I claim, first, The use of the hollow heater, B, when constructed substantially as described and provided with the broad flange, D, for the purposes set forth.

Second, I claim the use of the removable flange, F, in combination with the heater, B, and broad flange D, when constructed substantially as described, for the purpose of regulating the heat and the illuminating power of the lamp, thus adapting the same to burning different materials.

30,221.—John Holmes, of St. Clair, Pa., for an Improvement in Pumps:

I claim the arrangement of the loaded truck, D, rod, F, plunger rod, F', with the pump, G, chain, E, frame, C, and rod, D', as and for the purposes set forth and described.

30,261.—C. F. Spencer, of Rochester, N. Y., for an Improved Hose Coupling:

I claim my improved packing for hose couplings, consisting of the loose ring, f, of india-rubber or its equivalent, in combination with the annular chamber, d, for retaining the same in a position to readily impact with the ends of the inserted section, B, by the force of the water passing through the hose, substantially as set forth.

I also claim, in combination with said packing ring, the grove, i', on the neck of the tube, B, and latch, g or its equivalent, substantially as and for the purposes specified.

30,274.—J. J. Watson, of Buffalo, N. Y., for an Improved Water-Wheel:

I claim, first, the wheel, C, consisting of a series of buckets made and placed substantially in the form and position herein represented, together with the cylinder, G, and its arms, H H, and collar, I, as set forth.

Second, The lower wheel is constructed, revolving independently in the cylinder, G, and used separately or in connection with the wheel, C, when the whole are constructed and arranged to operate substantially as specified.

30,297.—Robert Cathcart, of Baltimore, Md., for an Improved Light for Cars:

I claim the arrangement in the manner specified of the conical reflector and lantern relatively to the lamp and roof of railway and other cars, for the purpose described.

30,300.—T. C. Clarke, of Camden, N. J., for an Improved Filter:

I claim, first, In a filter for water, an opening or escape on the supply side of the filtering medium, controlled in the manner set forth and for the purposes specified.

Second, I claim the slide. I, in combination with the valve, h, for opening the said valve to clean the filter or draw unfiltered water as specified.

Third, I claim the construction of the divided case, c d, kept together by the turn buttons, e e, and provided with the ribs, I I, forming the water channels, in the manner and for the purposes specified.

30,314.—L. H. Hasse, of New York City, for an Improvement in Submarine Lamps:

I claim the construction and arrangement of the submarine lamp, substantially as described, with a double bottom of the casing containing caustic potash, and with an exhaust pipe, for the purpose of easily removing the products of combustion

And I also claim the submarine lamp, substantially as specified in combination with the tubes, O and P, and with the piston, Q, working on a detonating compound for the purpose of igniting the same, substantially as set forth.

30,319.—R. W. Holt, of Boston, Mass., for an Improvement in Apparatuses for Burning Gas:

I claim, first, Carrying off the unconsumed products of combustion of the flame or jet by forming within the apparatus itself ventilating flues, arranged and operated as described; the same consisting of the main stock, a a, and branch pipe, c, terminating in a bell-shaped mouth, extending over the flame or jet, as set forth.

Second, So arranging and locating the gas supplying pipes, or the reservoir from which all the branch pipes for conveying gas to the burners receive their supply that they or it shall receive, and be exposed to the upward heated currents that proceed from the flames or jets, substantially as described and for the purposes specified.

30,340.—Charles Newcomb, of New York City, for an Improvement in Apparatuses for the Ventilation of Railroad Cars:

I claim the combination with the main pipes running along the train of cars, as described, of perforated pipes within the body of the cars and below the ceiling, together with their dampers, the whole being arranged to be operated as described, so that each car may be supplied with the requisite quantity of fresh air, free from dust, smoke or cinders, and without such ventillation of one car interfering with that of the other.

30,349.—D. S. Quimby, of Brooklyn, N. Y., for an Improved Fireplace Heater:

I claim the arrangement of the fireplace box, F, perforated plates, A B C D, with the flues, G G', and flue, E, arranged and operated as described.

30,354.—M. E. Rudasill, of Shelby, N. C., for an Improvement in Pumps:

I claim the arrangement of the plate, A, box, C, and cylinders, B B, with the pistons, I I, springs, F F, hollow shaft, D, and cam cylinder, E—the several parts being connected and made to operate substantially as and for the purpose specified.

30,363.—S. D. Stout, of Charleston, Tenn., for an Improvement in Pumps:

I claim the three-chambered box, A, with its valves, b b and d, and leader pipe, B, in combination with the air pipes, C C', cut-off box, E, and bellows, G, or its equivalent; the whole being arranged substantially as and for the purpose described.

[This invention consists in the employment of compressed air in a novel manner for forcing water up through a pipe from the bottom of a well, or other low level, in continuous stream. The invention further consists in the use of a vibrating cut-off for conducting air alternately to the two side compartments of the valve-box.]

30,366.—M. W. Warne, of St. Louis, Mo., for an Improvement in Filters:

I claim the employment or use of cylinders, C D, one or more placed within a water cooler, A, and provided with a suitable filtering medium, F, and iron and sulphur, H G, essentially as and for the purpose set forth.

[This invention consists in arranging the parts of a filter in such a manner that the water will pass upward through a proper filtering medium, and cause the impurities to settle at the bottom, the filtering medium being placed within suitable boxes or receivers in a cooler, and used in connection with iron and sulphur, so that the water being purified and cooled, will also be medicated.]

30,377.—Albert Kleinsteiber of Milwaukie, Wis., assignor to W. Musgrove, of New York City, for an Improvement in Lamps:

I claim the tube, E, and piston, F, the latter being adjusted by the screw, C, or other device, in combination with a hollow wick formed of a straw, G, or its equivalent, and twist, H, essentially as and for the purpose set forth.

[The object of this invention is to obtain a lamp for burning lard, grease collected in cooking, &c., &c. The invention is designed solely for domestic or household use in rural districts, and to apply the majority of scraps and grease for illuminating purposes which are now used less advantageously.]

30,381.—J. E. Ambrose, of Batavia, Ill., for an Improvement in Lamps:

I claim, first, The arrangement of the heaters, G H, with a space between them communicating directly with the external air, in connection with the collar, p, and plates, q. q. fitted on the top of the wick tube, E, and the perforated cap, C, substantially as and for the purpose set forth.

Second. In combination with the parts aforesaid, the vaper tube, F, placed within the cap, C, and adjoining or contiguous to the wick tube, as and for the purpose specified.

Third. The shaft, e, provided with the rod, f, and spurs, g, which are within the chamber, d, of the wick tube, in connection with the plates, h j k, and spring, i, on said shaft, all being arranged to operate as and for the purposes set forth.

[The object of this invention is to obtain a lamp which will burn without a chimney, and without danger of explosion, those hydrocarbons which are volatile, and contain an excess of carbon.]

30,399.—Joseph Foster, of Richmond, Va., for an Improvement in Gas Regulators:

I claim, first, The arrangement of the lead or weight on the inverted cup below the said cup and between the said cup and the valve, substantially as described.

Second, The arrangement of the guides of the inverted cup outside of or beyond the circumference of the said cup, substantially as and for the purpose set forth.

30,400.—E. P. Gleason, of Providence, R. I., for an Improvement in Socket Coupling:

I claim a socket coupling having a hollow cylindrical cushion of caoutchouc, or other similar elastic gum, adhering to the inner walls of the socket shell, and having the surface of the opening through the same molded in a proper form by compression, and made elastic by the action of heat applied thereto, in the manner and for the purpose substantially as specified.

I also claim, in combination with such a cushion, a socket piece or nipple having a bulb or swelling ridge upon the end which passes through the opening in said cushion, by the contraction of which opening the nipple is held securely within the socket, as set forth.

30,415.—J. G. Leffingwell, of Newark, N. J. (formerly of St. Louis, Mo.), for an Improvement in Gas Regulators:

I claim, first, Interposing between the flanges of the cups or sections of the regulator and the elastic diaphgragm the non-corrosive metal for protecting the flanges and the diaphragm.

Second, I claim clamping the diaphragm between the edges of the metal plates, constructed and operated substantially as described.

Third, I claim connecting the extended part of the regulator to which the exit or eduction pipe is attached to the induction pipe by a syphon, constructed and arranged and operating as set forth.

Fourth, I claim the independent valve seat made of non-corrosive metal, and fitted to the regulator by a grooved joint, in combination with a non-corrosive metal valve, as described.

Fifth, I claim the lever valve, r, in combination with the tube or opening, g, of the upper section of the regulator, for the purpose of regulating the condition of the atmospheric pressure upon the upper side of the diaphragm, as set forth.

30,444.—H. W. Dopp (assignor to J. B. White), of Buffalo, N. Y., for an Improvement in Lamps:

I claim, first, the employment of a bellows or elastic diaphragm, operated by a spring or equivalent, for the purpose of driving or forcing the fluid from the body of the lamp toward or in the direction of the burner, substantially as specified.

Second, I claim operating the valve, S, and needle point x, for graduating and cleaning purposes, by means of a cam groove or its equivalent, in the stop-cock, F, in combination with the nozzle, n, whereby I avoid the necessity of packing, substantially as specified.

Third, I claim the rod, a, or its equivalent, when used as described, by means of which I am enabled to place the cam stop cock, or its equivalent, beyond the reach of the surplus heat substantially as set forth.

Fourth, I claim the valve, S, in combination with the rod, a, spring, d, and cam stop-cock, F, for the purpose of graduating the size of the flame, substantially as specified.

ADDITIONAL IMPROVEMENTS.

G. T. Parkhurst, of Baltimore, Md., for an Improvement in Lamps. Patented Sept. 13, 1859:

I claim a string attached to the outside of the upper half of a burner, and extending each way around it from the point where it is attached, with a catch on each end, suitably shaped to fasten the glass to the burner and the two parts of the burner to each other.

I also claim the oval shaped dome or cap made in one piece with the flooring, in combination with the partitions which divide the currents of air which flow to the wick from those that pass through the side openings between the cap or dome and the chimney.

I also claim the snuffing blade attached to the interior of the lamp and actuated by mechanism outside the same, all made substantially as described, or their mechanical equivalents, and operating in the manner set forth.

JOHN J. GRIFFIN & CO.,

No. 7 BEEKMAN Street, and 76 West 37th Street,

NEW YORK CITY,

MANUFACTURERS OF WET AND DRY GAS-METERS,

Station-Meters, Proving-Machines, Show-Meters, Test-Meters, Pressure Indicators, &c.

All of our Work is Guaranteed to be of the First Quality, as well as the material, and for this we can refer to numerous Gas-Light Companies.

CODE, HOPPER & GRATZ,

1500, 1502 and 1504 FILBERT-ST., PHILADELPHIA.

MANUFACTURERS OF

Pressure Registers, Pressure Indicators, Pressure Gauges, Photometers, Governors, Station Meters, Customer Meters, (Wet and Dry,) Experimenta Meters, (Wet and Dry,) Show Meters, (Wet and Dry,) Meter Provers, Centre Seals, &c.

The high reputation which we have enjoyed for more than twenty-two years, and the fact that we have manufactured a greater number of Gas-Meters than all other manufacturers in this country combined must present itself as a security to parties desirous of securing the most reliable instruments. Having completed a most extensive addition to our Factory, and added many important improvements to our machinery, we are enabled to fill orders entrusted to us with dispatch, and in all cases *Guarantee Entire Satisfaction*. Our Patent Rotary-Valve Dry Gas-Meter is now used by upwards of Two Hundred Gas Companies, giving general satisfaction; we therefore recommend it, believing it superior to any other Dry Gas-Meter manufactured. All Meters tested separately by a sworn Meter-Inspector, and sealed when desired.

ADDISON POTTER,
WILLINGTON QUAY,
NEAR NEWCASTLE-UPON-TYNE, ENGLAND,
Manufacturer of CLAY RETORTS, FIRE BRICKS, and every description of FIRE CLAY GOODS.

COWEN'S PATENT FIRE-CLAY Retorts.
JOSEPH COWEN & Co., Blaydon Burn, near Newcastle-on-Tyne, England, were the only parties to whom a Prize Medal was awarded at the Great Exhibition in London, of 1851, for "GAS RETORTS AND OTHER OBJECTS IN FIRE CLAY."
J. C. & Co. have been for many years the most extensive manufacturers of Fire Clay Retorts in the United Kingdom; and orders for FIRE CLAY RETORTS of all shapes and dimensions, FIRE BRICKS, and every other article in Fire Clay, are promptly executed at their works as above.
COWEN'S GARESFIELD COAL AND COKE.
Coal and Coke office,
QUAY SIDE, NEWCASTLE-ON-TYNE.

WILLIAM RYDER,
General Mineral and Metal Agent and Merchant, 4 Dean street, NEWCASTLE-ON-TYNE, England, is prepared to supply Gas Companies and others with every variety of appliance for the production and supply of Gas, including GASOMETERS, RETORTS (metal and clay), FIRE BRICKS, COALS, METAL MAINS, TUBES, in wrought iron, copper, brass, lead or composition, METERS, TAPS, FITTINGS, &c., &c.; and from his extensive experience in this class of work, can guarantee every thing of the best description.

JOHN ROGERSON & CO., NEW-CASTLE ON-TYNE, Middlesbro'-on-Tees,
London, supply Gas Coal, Clay Retorts, Cast Iron Pipes and Retorts, Gasometers, &c. A partner of the above house being now in this city, will be glad to wait upon any gas company requiring supplies. Agents, MEAD & BELL,
17 William street, New York.

NEW YORK FIRE-BRICK Manufactory. (Branch Works at Kreischerville, Staten Island.)
B. KREISCHER & CO, office 56 Goerck street, corner Delancy street, New York.
GAS-HOUSE TILES and FIRE BRICK of all shapes and sizes. FIRE MORTAR, CLAY, and SAND articles of every description made to order at the shortest notice. B. KREISCHER, M MAURER. A. WEBER.

ENGLISH FIRE BRICKS, Rufford's Stourbridge Bricks, Stourbridge and Welsh Clay.
S. THOMPSON'S Neph., IMP'R,
45 Gold-st.

JOHN NEWKUMET, Philadelphia Fire-Brick Works, Vine and Twenty-third Streets, Philadelphia.
Manufacturer of all kinds of FIRE-BRICK, GAS-HOUSE TILES, to suit all the different plans in use. Clay Retorts and Dentists' Muffles. Orders filled at short notice.

PATENT PYRO-CLAY GAS RETORTS. THOMAS HOADLEY, Patentee, wishes to call the attention of Gas-engineers to these Retorts, as a very superior article.
REFERENCES:—Gas-Light Works, Buffalo, N. Y.
" " Cleveland, O.
" " Chicago, Ill.
THOS. HOADLEY, 34 Front st., Cleveland, O.

CELLULAR GAS RETORTS. C. M. CRESSON'S CELLULAR GAS Retorts, Patented October 3d, 1854. Adapted to the manufacture of GAS from Rosin, Coal, Wood, &c., and now in use at the Philadelphia Gas Works. Patent Rights for sale. For information apply to HENRY S. HAGERT, Attorney for Patentee, S. E. cor of Walnut and Sixth streets, Philadelphia, Pa.

GAUTIER'S CLAY RETORTS.—Fire and Arch Bricks, Gas-House Tiles, &c. Black Lead Crucibles for Steel Works and Brass Founders.
MANY, BALDWIN & MANY, 49 John-st., N. Y.

ELLIMAN BROTHERS, 217 Pearl-St., New York, Commission Merchants, Importers of
BELGIAN FIRE-CLAY GAS RETORTS,
Dealers in Tiles, Arch-Bricks, Furnace-Doors, Mouth-Pieces, Covers, and all other Fittings, of the most approved patterns, for setting Clay Retorts. Sabbaton's Patent Furnace-Doors and Frames, Floyd's Patent Malleable Iron Retort Covers, McKenzie's Patent Gas Exhausters, made by Addison Smith, Compensator Valves, &c. Gas, Water, and Steam Tubes

CLAY RETORTS.—J. K. BRICK & Co.—Brooklyn Clay Retort and Fire-Brick Works Van Dyke, near Van Brunt street, Brooklyn, N. Y.—Manufacturers of Clay Retorts, Fire Brick, Gas and Hot House Tiles, Arch, Furnace and Cupola Brick, Fire Cement, Mortar, &c.
J. K. B. & Co. would invite the attention of Gas Companies to the important fact, that the Clay Retorts manufactured at their Works can be set without Tiles, requiring to be supported only at the front and rear ends, thereby exposing the entire surface of the Retort to the direct action of the flame from the furnace.
The results of this mode of setting, are a Saving of Fuel, Tiles, Transportation of Materials, Labor and Space, thereby enabling Gas Companies to set Retorts of at least 50 per cent. greater capacity than those usually employed in the ordinary arches.

KENNEDY'S Method of Securing Iron Mouth-Pieces to Clay Retorts.—The Retort is made in the usual form, but without any bolt-holes through the flange. An iron collar made in two pieces, is then placed around the Retort behind the flange, and bolted to the mouth-piece by bolts which pass just outside of the flange instead of passing through it. As each Retort costs about $30, and as the breaking out of the bolt-holes entirely ruins the whole Retort, the importance of this simple but valuable improvement will be readily appreciated.
By this improvement the mouth-piece is firmly attached to Clay Retorts in a simple and very substantial manner, the bolts passing from the yoke to the mouth-piece on the outside of the Retort. The yokes are furnished at a low price, ready to be put on. For Engravings, see AMERICAN GAS-LIGHT JOURNAL for June, 1860, page 245. Address the Patentee,
JOHN P. KENNEDY, Trenton, N. J.

FOR SYMMES' PATENT RETORTS, Mouthpieces, &c. address—
ELLIMAN BROTHERS, 217 Pearl-st., New York.
MORRIS, TASKER & CO, Philadelphia.
HORATIO EAGLE, 254 Canal-St., New York.
Or H. K. SYMMES, Newton, Mass.
See Engravings in AMERICAN GAS-LIGHT JOURNAL for July 1, 1860, page 280.

C. R. WOODWORTH,
Manufacturer of
PORTABLE GAS-WORKS,
74 WALL STREET,
New York City.

PORTABLE GAS WORKS.—S. T. McDOUGALL'S PATENT Portable Gas Works, for making Gas from Rosin, Rosin Oil, Coal Oil, Naptha, Grease, etc. These Works combine the latest improvements in gas making, and are guaranteed to be superior to any in market. They are made of all sizes, suitable for either country or city use. No county house is complete without its Gas Works. Gas Stoves of every description on hand and made to order. For sale by S. T. McDougall, 170 Center Street, New York.
Agents wanted in other cities to sell rights or machines.

GAS FOR THE COUNTRY.—C. WOOSTER, Manufacturer of Improved Portable Gas-Machines, for Villages, Public Institutions, Churches, Hotels, Railroad Depots, Factories, Mills, Machine-Shops, Plantation Dwellings, &c. Office, 256 Canal street, near Broadway.
This Machine has been in successful operation for years, in many of the best residences and factories in the country, and for simplicity of construction, ease of management and economy of light produced, possess advantages over all other machines for the purpose now in use. It is adapted to the making of Gas from Crude Rosin or Rosin-Oil, producing a Gas of twice the illuminating power of Coal-Gas, at about one half the price usually charged for that gas.
Every Machine is sold under a strict guarantee to operate according to representation, and no payment required until the fact is demonstrated by actual use.
For further particulars, and descriptive pamphlet containing references to numerous parties now using the apparatus, address
C. WOOSTER,
No. 256 Canal-st., near Broadway, N. Y.
For Engravings, see AMERICAN GAS-LIGHT JOURNAL, for June, 1860, page 245.
☞ Responsible Agents wanted, with whom liberal arrangements will be made.

APPLETON'S IMPROVED GAS-Works, for Factories, Hotels, Dwellings, and Towns. The most simple and economical works in use, furnishing a superior light to coal gas at a cost of one half a cent per burner per hour. It does not injure trees, or plate, and is not affected by cold. For Circular and Terms apply to APPLETON & GRAHAM,
56 Washington street, Boston.
For Engravings, see AMERICAN GAS-LIGHT JOURNAL for April, page 213.

ROSIN GAS-WORKS, for Factories, Hotels, and Public Buildings. These works may be seen in operation at the Berkshire Woolen Mills, Great Barrington, Mass.; Manchester Mills, Manchester, Conn.; A. A. Van Alen & Co's. Factories, Stvesant Falls, N.Y., and many other places JAMES O. MORSE & CO.,
76 John-st., New York.

MARSH'S PATENT ROSIN or Sun-Light Gas-Works, for Private Dwellings, Hotels, Factories, Railway stations, Sugar-Houses, Towns, &c. By the peculiar construction of the Retorts, the largest amount of decomposing surface is obtained in the smallest space. 2d. Gas is manufactured from crude rosin, without the least deposit of carbonaceous matter in the retorts or pipes: thus enabling them to be operated continuously, generating rapidly the best and cheapest illuminating gas obtained from this material. ALFRED MARSH & CO.,
241 Broadway, New York.

THE AUBIN GAS-WORKS CO., No. 44 State street, Albany, N. Y., will refer parties wanting GAS-WORKS FOR VILLAGES to seventeen of their Village Works now in operation in the United States and the Canadas in *every one of which the profits of the company are ten per cent. and upwards, and yet good gas is furnished.* Agents wanted to extend the sale of the AUBIN PORTABLE GAS STOVE for dwellings, factories, &c., which will make 1000 feet of gas in five hours, and with greater simplicity, safety and economy, than any other known apparatus.

JAMES HELME, Chandelier and Gas-Fitting Establishment, No. 58, East Thirteenth street, between Broadway and University Place, New York.

LANE & ANNIN, GAS, WATER and STEAM FITTINGS,
88 JOHN-St., Cor. of GOLD,
NEW-YORK.
Manufacturers of the best quality of all the varieties of Connections for Iron Pipes; both Malleable, Wrought and Cast Iron. Also Meter Cocks, Lamp Cocks, &c.
Also, sole manufacturers of a New Meter Cock, which connects with Lead Pipe, forming a perfect joint without solder. Also, a connection for Lead pipe, without the use of solder.
GALVANIZED FITTINGS FOR PLUMBERS.
Wrought Iron Pipe of best quality, for sale. Orders solicited.
CONTRACTS MADE FOR HEATING BUILDINGS BY STEAM.

JOHN COX & CO., No. 696 Broadway, cor. of Fourth street, New York. Importers of French and English Gas Fixtures of every description, Paris Clocks, Real Bronzes, &c. Manufacturers of Silver Ware.

TIFFANY & COMPANY, Jewelers and Importers of elegant artistic PARIS GAS CHANDELIERS, BRACKETS, PENDANTS, &c., in Bronze and Gilt.
No. 550 BROADWAY, NEW YORK.

BRADBURY M. JOHNSON, GAS-Fitter and Plumber, No. 111 East Eighteenth street, New York:
A large and elegant assortment of CHANDELIERS, BRACKETS, &c. Gas-Pipe and Posts made for Gas Companies on favorable terms.

PHILADELPHIA GAS FIXTURE Works.—Warner, Miskey & Merrill, Manufacturers, Store, No. 718 Chestnut street, Philadelphia. Warner, Peck & Co., No. 376 Broadway, New York, would respectfully inform the public that they continue to Manufacture all kinds of Gas Fixtures, Lamps, Girandoles, Bronzes, &c., and that their large and varied stock comprises the simplest as well as the most elaborate patterns, designed by their French artists. They also continue to keep at their store, 376 Broadway, a large and full assortment of all their manufactured Goods. Dealers and others are invited to call and examine,

Gas Fixtures and Fittings. RINGUET-LEPRINCE & L. MARCOTTE, Warehouse, 347 Fourth street.—Manufactory, 55 West Sixteenth street, New York.
RINGUET-LEPRINCE, 3 Rue de la Paix, Paris.
Painting, Paneling, Cabinet Work, Looking-Glass Plates, Mirror Frames, Silk, Worsted and Woolen Materials, Aubusson and Moquette Carpets, Gas Fixtures, Bronzes &c.

GAS FIXTURES TO BE SOLD at Wholesale Prices.—In consequence of alterations in his store, the Subscriber is obliged to dispose of his enire stock of Gas Fixtures. Those wishing to purchase at very low prices wil do well to call. Gas Fixtures removed. Gas fitting executed in all its branches.
J. H. VAN REED,
219 Bleecker St.

LOCKE & CRAIGIE, Plumbers and Gas-Fitters, No. 12 East 20th street, New York.
LOCKE, CRAIGIE & CO., Gas-Fittings, Chandeliers, Brackets, Globes, &c., No. 927 Broadway, New York.
☞ Particular attention paid to country work.

FRD. C. KRAUSE, Manufacturer of Patent Porous Gas-Burners for COOKING, IRONING, HEATING, CHEMICAL APPARATUS, &c., No. 772 Eighth Avenue, corner of Fifty-Fourth street, New York.
Sole Agent for the United States,
HORATIO EAGLE,
126 Maiden Lane, New York.

FELLOWS, HOFFMAN & CO., (late Starr, Fellows & Co.,) Manufacturers of Gas Fixtures and Chandeliers, Solar, Camphene and Fluid Lamps, Girandoles, Hall Lanterns, &c., No 74 Beekman st., New York.

GEORGE H. KITCHEN & CO., Manufacturers of Fixtures for Gas Light purposes, Wood's Building, No. 561 Broadway, New York. Office of the Inspector of Gas Meters for the State of New York.

T. G. ARNOLD, Manufacturer of Gas Burners, Mercury Cups, Portable Sockets, Burner Pillars, &c., No. 447 Broome street (second door west of Broadway), New-York. Imported Scotch Tips and Burner Plyers always on hand

M'KENZIE & O'HARA, Plumbers and Gas-Fitters, No. 326 FOURTH STREET, CORNER OF MERCER ST., NEW YORK.
Water Closet Pans, Wine Basins, Wash Basins, Sinks, Fountains, Jets for public and private purposes, Stop-cocks, Filters, and all other Water apparatus.
ALSO, a complete assortment of Gas-fixtures, Pendants, Chandeliers, Brackets, &c. &c.

HARPER & O'CONNELL, Manufacturers of Gas Shades and Globes of every description. FRENCH COLORED GAS SHADES AND SMOKE BELLS Nos. 63 and 65 Elizabeth street, corner Hester, New York.

POOLE & HUNT, Baltimore, Md., are prepared to execute orders for
GAS-HOLDERS,
IRON-ROOF FRAMING,
And all other Descriptions of
Iron Work for Gas-Works, Water-Pipes and Heavy Castings and Machinery Generally.

DANIEL THOMPSON, Machinist and manufacturer of Stop Cocks, Fire Plugs, &c., for Water-Works, STOP COCKS, VALVES, DRIP PUMPS, &c., for Gas-Works, No. 133, Elfreth Alley, Philadelphia.

BURTIS' PATENT COMPENSATING COUNTERBALANCE FOR GASOMETERS.—This Improvement consists in making the attachment to the Gas-Holder by counterweights in such a manner as to effectually prevent it from getting out of level so as to bind, and also to prevent any escape of Gas at Cup or Hydraulic seal, where the Holder is on the Telescopic plan. Holders that work out of level, are thus evenly balanced, and prevented from binding or lodging against Tank-wall and falling down, thereby being rendered unfit for service. Where Holders or sections of Holders cannot be used on account of the above difficulties, this arrangement will remove them, and place the Holder in good working order; moreover, with this attachment, deep tanks are not necessary.
BURTIS' COUNTERBALANCE has been in use for three years at the Gas-Works, Chicago, Ill. Its resistance to high winds and snow-drifts, is alone sufficient to recommend its general adoption. For Engravings, see AMERICAN GAS-LIGHT JOURNAL for June, 1860, page 221. Address
P. T. BURTIS,
Engineer Gas-Works, Chicago, Ill.

H. R. WORTHINGTON'S Patent Water-Meter.—This Meter combines accuracy, simplicity, and remarkable durability, with such ease and certainty of motion, as to offer no appreciable obstructions to the flow of water in the pipes to which it is connected, as it runs and registers upon three inches head, or when delivering the smallest stream. These qualities with its low cost, have caused its extensive adoption by corporations and individuals in many of our largest cities. Particular information can begiven at the office of the undersigned, where a Meter can be seen in operation.
For sale, at greatly reduced prices, WORTHINGTON'S STEAM PUMPS, extensively used by Gas-Light Companies. Also, a new and highly successful PUMP, driven by water-pressure, requiring no attention or repairs, and the most economical water-motor yet constructed.
Patent GATES, for Water and Steam-stops
HENRY R. WORTHINGTON,
28 Broadway, N. Y.
One of these Water-Meters can be seen in operation at the Rooms of the AMERICAN GAS-LIGHT JOURNAL.

FREEZING OF GAS-PIPES.—Walton's Patent Anti-Freezing Apparatus illustrated by engravings, in the AMERICAN GAS-LIGHT JOURNAL, of Jan., 1860, page 141, is the most simple, durable and efficient of any known process.
According to Professor Faraday, the watery vapor contained in illuminating gas amounts to 0·0093 parts where the gas is at a temperature of 40°, or in other words, that there are 1, 7-10 *gills water in every* 1,000 *cubic feet of gas* at that temperature. It is the deposit of this water in the form of frost that closes the exposed pipes.
Walton's plan is, in a few words, to supply this water with a sufficient quantity of alcohol (98–100ths), the vapor of which will enable it to pass through the most exposed pipes, unaffected by frost. Experiments of three years prove that one gill of such alcohol will protect 1,000 feet of gas at any temperature. Private houses, Hotels and Gas-works, can be thus guarantied from frost by the use of Walton's Anti-Freezer, which consists of but two or three small castings, at the most trifling cost. It can be applied at Gas-works without altering any of the pipes; and the expense of labor and the alcohol will not exceed two cents per 1,000 feet of gas.
It can be seen in operation at the rooms of the AMERICAN GAS-LIGHT JOURNAL, where orders will be executed at once.
Read the Following Testimonials:
GAS-WORKS, CINCINNATI, O., 24th May, 1858.
MR. JOHN WALTON, Louisville, Ky.:
DEAR SIR,—At an earlier date, I intended to have written you the result of my experience during last winter, in regard to your patented apparatus to prevent the freezing of gas in pipes. I am quite convinced that both in theory and practice your apparatus is correct, and in no case will it fail to prevent the freezing in pipes of our illuminating carburretted hydrogen gas, provided attention is paid to renew the alcohol often enough in proportion to the amount of gas passing through the anti-freezing apparatus.
Yours truly, JOHN JEFFREY.
OFFICE LOUISVILLE, KY., GAS CO., March 30th, 1860.
In the winter of 1856, this Gas Company first applied John Walton's patent method for the prevention of Frost in Service Pipes,—to this date we have used it with perfect success. *This Company have Purchased the Right to this Patent for Louisville, Kentucky.*
The application of a vessel, containing a small quantity of alcohol, placed between the gas main and an open area connected with a building, through which the service pipe was laid, has always prevented the freezing or stoppage of the service pipe, although the temperature may have ranged from the freezing point to several degrees below zero.
As the alcohol absorbs from the gas any vapor of the water that may be passing off with it, after passing the vessel containing alcohol, there remains in the gas nothing that can freeze or close the pipe. *This simple application, we have proved to be an effectual safeguard against the closing of gas pipes with frost.*
ROBERT G. COURTENAY, President.

CANDLES FROM COAL.—A New Invention, Manufactured by the NEW YORK PARAFFINE CANDLE COMPANY, UNDER MEUCCI'S PATENT.

These Candles being made from one of the products of the distillation of Coal, and having the same chemical constituents as gas, being, in fact,

GAS SOLIDIFIED,

are eminently adapted for giving light. They took the highest premium at the late Fair of the American Institute, held October, 1859, as may be seen from the following extract from the report of the Committee :—

"Our tests with the Photometer showed that the Paraffine Candles above referred to, as compared with the best Sperm, had greater illuminating power, gave a softer and pleasanter light to read by, and burned full ten per cent. longer than the standard Sperm Candle, and we recommend it as deserving the highest premium of the Institute.

"ISAIAH DECK, M. D.,
"Analytical and Consulting Chemist.
"JOSEPH YATES,
"Civil Engineer."

The Candles manufactured by this Company are warranted to stand all climates, will not run or gutter, and require no snuffing, and, unlike some other so-called Paraffine Candles,

DO NOT SMOKE IN BURNING OR BECOME YELLOW WITH AGE, AND ARE WITHOUT ODOR.

CAUTION.—As an Imitation Candle is already offered in the market, purchasers should bear in mind that every box of Candles sold by this Company is stamped with its adopted trade mark, which is a circle, enclosing the words, "NEW YORK PARAFFINE CANDLE CO., MEUCCI'S PATENT, 1859," with our trade mark as above, to imitate which is felony by law.

WM. E. RIDER, 16 Beekman-st., N. Y.,
Agent for the Company.

TO COAL OIL REFINERS.—Having made arrangements with the Proprietor of the principal wells yielding Petroleum, or Seneca Oil, in the State of Pennsylvania, we are constantly receiving supplies, and are prepared to offer this article on the most favorable terms, and in quantities to suit purchasers. SCHIEFFELIN BROTHERS & CO.,
170 William stree

STANDARD Photometric Candles.—Owing to a number of Applications made to me for information concerning the supply of the "Standard Sperm Candles," used in Photometries, I have obtained a supply, from which I can furnish those who require them with full directions for use. T. W. PARMELE,
No. 4 Irving Place, New York.

TO CANDLE AND SOAP Makers.—Processes with drawings to manufacture every kind of candles and soaps by different processes : Candles by distillation, saponification, French candles, common candles, hard and soft soaps, palm soaps ; processes to bleach palm oil and make candles out of it ; purification of tallow ; essays on greases and soaps. Address, Professor H. DUSSAUCE, Chemist, New Lebanon, N. Y.

J. L. McREA, Dealer in Coal Oils and Lamps, Binnacle and Signal Light Oils, 139 Water street, New York.

Rosin Oil and Rosin.—For sale of our own manufacture a superior article of ROSIN OIL, for Gas purposes. Also Refined Oil. For shipment in secure iron-bound barrels, or by any single barrel.

Address MARYLAND GAS COMPANY, No. 6 Bank of Baltimore Building, Baltimore, Md.

P. S. This Company is also prepared to construct their superior Patented GAS WORKS of any capacity, from that required for a private dwelling, hotel, church, college or factory, to such as will supply cities and towns, complete in all their parts for the manufacture of GAS, from either Rosin Oil, Coal, or Rosin.

SCHWARZ'S PATENT STEAtite, or Lava Gas-Burner Tips.—These obtained a Gold Prize Medal in Europe, where they are now extensively used in place of metal tips. In Prof. Liebig's and other Chemists' works, these burners are recommended as *indestructible by acids or alkalies, unchangeable by heat or cold, not liable to rust or corrosion*, and superior in economy to the metal tips. Boston and other cities have adopted them for street lights after a satisfactory trial. They are imported from Germany by the undersigned, sole Agent for America, who can now supply the trade or cities at reduced prices, with any pattern of tips to fit the double cylinder or other kind of burners. For sale also, Large Gas Heating Burners, of same material, for Chemists, &c. W. W. WARREN,
25 Kilby-st., Boston

OREGON FOUNDRY, Nos. 740, 742, 744 Greenwich street, New York.

HERRING & FLOYD, proprietors, manufacture Gas Compensators of all Sizes, Self-Acting Valves, Exhausters upon an improved plan, costing less than half those of English manufacture, also castings of every description for Gas and Water Works.

Herring & Floyd offer for sale Sabbaton's Patent Screening Shovels for coke and coals, made of malleable iron, of all sizes ; Sabbaton's Patent Improved Cast Iron Furnace Frame and Door, arranged to protect the iron work of the door and frame from direct contact with the fire ; also Floyd's Patent Malleable Iron Retort Covers, only quarter of an inch thick, but of convex form, and of great strength, as is attested by certificates from several of the leading Gas-works in America. For engravings of all the above patents see AMERICAN GAS LIGHT JOURNAL for October, 1859, pages 65 and 71.

Samples of the above castings can be seen at the Rooms of the AMERICAN GAS-LIGHT JOURNAL.

GREENE ST. IRON FOUNDRY and Machine Shop, 37 to 43 Greene street, (Office, No. 39) near Grand, New York.

Cast Iron Soil and Drain Pipe, Tees, Bends, &c.
A. & E. B. BRADY.

COLWELL & CO., Manufacturers of Pig Iron and Cast Iron Gas and Water Pipes, No. 207 North Water street and 206 North Wharves, Philadelphia.

STEPHEN COLWELL, W. DWIGHT BELL,
THEO. TREWENDT, SAMUEL FULTON.

STUART & PETERSON, Willow street, above Thirteenth, Philadelphia, Manufacturers of LAMP POSTS and CAST IRON STREET-LANTERNS.

P. S.—Our Cast Iron Lanterns are warranted to out last three Tin Lanterns.

HUNTER, KELLER & CO., Manufacturers of

WROUGHT-IRON PIPES, AND FIXTURES

of all descriptions, for

STEAM, WATER AND GAS,

144 Centre street, New York.

TRANER & MERCER, 117 North Water street, and 124 North wharves, Philadelphia, AGENTS FOR FLORENCE & MERCER FOUNDRIES, ELK STREE IRON WORKS.

CAST IRON STREET MAINS ; *Bends, Branches, Chemical Retorts, and all kinds of Castings for* GAS-WORKS, either COAL or ROSIN WORKS. SHEET IRON FOR GASOMETERS *cut and punched to order*. BOILER IRON *of all descriptions*. RUSSIA SHEET IRON, TIN PLATES, BLOCK TIN, COPPER, PIG LEAD, SPELTER, and Metals generally.

GEORGE W. KRAFT, GASOMEter and Boiler-maker, Chestnut st. wharf, West Philadelphia, manufactures Gasometers, Retort House Roofs, Water Tanks Purifying Boxes, Coal Cars, Coke Barrows, and all kinds of Wrought Iron Work for Bridges, Buildings, &c.

Particular attention paid to Alterations and Repairs.

REFERENCES :

John C. Cresson, Engineer Gas Works, Philadelphia ; Joseph A. Sabbaton, Engineer Manhattan Gas Works, New York ; Col. W. S. Campbell, Engineer Gas Works New Orleans ; P. A. Sabbaton, Engineer Gas Works, Albany ; Waterhouse and Bowes, Gas Engineers, Raleigh, N. C. ; Joseph Battin, Newark N. J. ; C. B. Dungan, Philadela.

BERGEN IRON WORKS, Established 1833.

R. A. BRICK, Manufacturer of CAST-IRON WATER and GAS PIPES. RETORTS, PIPES, &c., always on hand, Office 109, Leonard street, New York.

PIPE, PIPE, PIPE, PIPE, PIPE.—Plumbers, and all others who use Cast-Iron Drain Pipe, will do well to call at the Pipe Foundry, 39 Greene street. A large lot of Five and Six Inch, Seven Foot length, on hand, and for sale low. A. & E. B. BRADY.

CAST AND WROUGHT IRON Pipe, Branches, Elbows, Sleeves, &c. Lamp-posts, Wrought iron Lanterns for Lamp-posts, Gas Retorts (clay or iron), Street Mains in 9 or 12 feet lengths. Sheet iron cut to pattern for Gas-holders. For sale by the manufacturers' Agent,
HENRY G. NICHOLS, 24 Pine-st., N. Y.

R. D. WOOD & CO., Manufacturers of Cast Iron, Gas and WATER PIPE ; RETORTS, LAMP-POSTS, &c. S. W. corner 4th and Chesnut streets, Philadelphia. Works at Millville, N. J.

NORRIS & GREGG,

DEALERS IN WROUGHT IRON Pipe, and Manufacturers of Fittings for Steam, Gas, and Water, Nos. 62 and 64 Gold street, (between Beekman and Fulton streets,) New York.

THOMAS H. NORRIS. CHARLES GREGG.

CAST-IRON PIPES.—EARL'S IRON WORKS, NEWARK, N. J., 91, 93, 95, 97 and 99 Chestnut street. Branch Office, 21 Centre street, New York.

The subscriber continues to manufacture Superior Cast-Iron Gas and Water Pipes, Branches, Bends, Angles, Bevel Hubs, Reducers, Sleeves, Drip Syphons, Plugs, Caps, Retorts, Bench Castings, and Castings in general, Particular attention paid to all Castings connected with Gas Works. E. B. EARL.

GIRARD TUBE WORKS. MURPHY & ALLISON, Proprietors. Wrought Iron Coke-Welded Tubes, for Gas, Water, Steam, &c. Wrought, Cast and Malleable Iron Fittings, Steam and Gas Cocks, Valves. Also, Galvanized Tubes and Fittings.

Office 1908 Market street, Philadelphia

AMERICAN TUBE WORKS.—W. G. Smith & Co., Forty-sixth street, east of 10th Avenue, New York City. Manufacturers of

WELDED IRON PIPE

for Steam or Gas, of all sizes, from 1-8th to 3 inches.

GEORGE STACEY, Cincinnati, O., Manufacturer of single and Telescopic Gasholders, Wrought-Iron Bridges, Girders, Joists and Stairways, Coke and Coal Wagons, Rakes, Screens, and other Gas-works tools, Slide and Cup Valves, Bolts, Nuts, Chisels, Ladles and other tools, Wrought-iron roofs, for Slate and Corrugated Iron, Gas Purifiers, Washers, Centre Seal Valves and other Gas apparatus, Boiler-plate Retort Lids. Refer to—

Cincinnati Gas Light & Coke Co.
Nashville Gas-Light Co.
Springfield Gas-Light Co.
Columbus Gas-Light Co.
Cleveland Gas-Light Co.
Covington and Newport Gas Light Co.
Memphis Gas-Light Co.
Indianapolis Gas-Light and Coke Co.
James H Caldwell, Esq., New Orleans.
John Jeffrey, Esq., Cincinnati.

S. S. ASHCRAFT, Cincinnati, O., Manufacturer of Gas and Water-Pipes, with Branches of every description; Retorts for Gas and Oil Works ; Gasholder Stands, Columns, &c Gas Purifiers, Condensers, and Gas Apparatus of all kinds ; Foundry Work in general.

N. B.—A complete selection of Patterns on hand. Refer to any of the Gas Works in the Western and Southwestern States.

THEODORE SCOWDEN, Engineer, Louisville.
JOHN JEFFREY, Civil Engineer, Cincinnati.
JACOB HOUGHTON, Engineer, Detroit

HORATIO EAGLE, No. 126 Maiden Lane, between Pearl & Water-sts.

Manufacturers' Agent for the sale of all descriptions of APPARATUS, PHILOSOPHICAL INSTRUMENTS and Raw Material used in and about Gas and Coal-Oil Works.

Also, Dealer in KEROSENE and other approved brands of COAL-OILS, Candles, etc., etc.

Estimates procured for VILLAGE and PORTABLE GAS-WORKS of all kinds, COMPRESSED GAS APPARATUS, &c., &c.

A. & G. BRANDON, Manufacturers of Street and Fancy

LAMPS,

of every pattern, for Hotels, Saloons and Public Buildings, on hand and made order.

Cities, Villages, and Gas Companies supplied with Street Lamps, on favorable terms. Office, No. 4 TYRON ROW, City Hall Square, and Manufactory, No. 102 Mulberry street, one door from Canal street, New-York.

Cast Iron Street Lanterns, neat and very durable.

For sale by JOHN JEFFREY, Cincinnati, Ohio.

Street Lanterns cast in three pieces, which are fitted together without bolts, rivets solder or other fastenings ; glazed without tins, putty, or catches ; the glass slipping into grooves cast in the lantern. These lanterns have been adopted, and are now used, by the City Councils of Cincinnati, O., Covington, Ky., and other cities.

CAST IRON WATER, GAS, DRAIN, AND HEATER PIPES, &c.,

COLUMBIAN IRON WORKS,

OFFICE, No. 46 NORTH SEVENTH STREET,

Below Arch street, Philadelphia.

THOS. M. ADAMS, Proprietor.

PLASTIC CARBON FILTERS.—The most simple, effective and reliable means of purifying water without trouble or loss of time ; may be used for all domestic and manufacturing purposes, and will be furnished in various sizes, by A. G. SCHELLER,
No. 36 Beekman street, New York

DIMMOCK, DWIGHT & CO., Engineers and Contractors for the erection of Coal Gas-Works. Offices 135 and 137 William street, New York city ; and No. 2 Elm street, Springfield, Mass.

REFERENCES BY PERMISSION :

GEORGE D. MORGAN, Esq., New York
AARON CLAFLIN, Esq., "
A. B. WOOD, Esq., "
GEORGE BLISS, Esq., N. Y., Pres. M. S. & N. I. R. R. Co
GEO. M. ATWATER, Esq., Springfield, Mass.
JAS. D. BREWER, Esq., Pres. Springfield Gas Co.,
JOHN I. BAKER, Esq., Pres Beverly Gas Co.,
HENRY E. RUSSELL, Esq., Pres. N. Britain Gas Co.,
J. DUNHAM, Esq., Pres. Norwich, Ct. Gas Co.,
W. C. STREET, Esq., Sec. Norwalk Ct. Gas Co.

JAMES RENWICK SMEDBERG, Consulting and Constructing GAS-ENGINEER. SAVANNAH, Geo

REFERENCES :

CHARLES ROOME, Esq., Pres. Man. Gas Co., N. Y.
J. K. BRICE, Esq., Eng'r Brooklyn Gas Co., "
Messrs. ELLIMAN BROTHERS, New-York.
F. T. WILLIS, Esq., Pres. Savannah Gas Co.
J. A. SABBATON, Esq., Eng'r. Man. Gas Co., N. Y.
JOHN B. MURRAY, Prop. AM. GAS-LIGHT. JOUR.

McKINNY & KELLY,
MANUFACTURERS OF
COAL-SCOOPS & COKE-BARROWS.

FURMAN St., Near Fulton Ferry, Brooklyn N. Y

STEPHEN SCAMMON, Gas Engineer and Contractor for the erection of Gas-Works ; also, dealer in CAST and WROUGHT IRON PIPE for Steam, Water and Gas. No. 561 Broadway, New York.

WATERHOUSE & BOWES, Builders of Gas-Works, Raleigh, N. C.—Gas-Works erected in any part of the United States.

REFERENCES.

J. H. Carson,	Pres't,	Charlotte,	N. C.	Gas-W'ks.
D. G. Fowle,	do.	Raleigh	do.	do.
J. C Smythe,	do.	Salisbury	do.	do
Arch. McClean,	do.	Fayetteville	do.	do.
Jos. A. Waddell,	do.	Staunton	Va.	do.
A. G. Story,	do.	Little Falls	N. Y.	do.
G. H. Young,	Prop'r	Waverley	Miss.	do.

Wm. Johnston, President of Charlotte & S. C. R. R., Charlotte, N. C., A. B. Wood, Agent Reading Iron Works, 57 Maiden lane, N. Y., Cornelius & Baker Manufacturers of Gas-fixtures, Philadelphia.

G. B. WATERHOUSE. M. BOWES.

ANALYTICAL & Manufacturing Chemistry.—Gesner's Chemical and Engineering Rooms, 24 William-street, New York Rooms No. 28 and 29. Analysis made of all mineral and commercial articles Coal oils tested, coal oil works erected, and contracts made. The best processes for purifying and deodorizing ; coal and petroleum oils furnished, with skilful workmen and superintendents. Mines surveyed and coal tested.

The Kerosene patents, from which the coal oil business in the United States originated, were granted to Dr. Gesner, Chemist and Geologist.

LABORATORY OF CHEMISTRY, —Consultations on Chemistry applied to arts and manufactures, agriculture, metallurgy, analysis of ores, mineral waters, soils, &c. Advices on chemical fabrications. Address, Professor H. DUSSAUCE, Chemist, (from the Conservatoire Imperial of Arts and Manufactures, Paris) New Lebanon, N. Y.

GAS ENGINEERS' LIBRARY.—The following works, indispensable to Engineers, Contractors and others engaged in the construction of Gas Works and manufacture of Gas, have been selected out of a large stock of chemical and other works, and are recommended to the attention of those interested.

AMERICAN GAS LIGHT JOURNAL, Vol. 1, bound $5
Do. do., in numbers per annum, $3
ANTISELL on Photogenic or Hydro carbon Oils. 1 vol. 4to. $1.75
BOOTH. Encyclopædia of Chemistry. 1 vol. 4to, $10
BUNSEN. Gasometry. 1 vol. 8vo. $2.50.
Chemistry applied to the Arts and Manufactures. By KNAPP, RONALDS & RICHARDSON. Fuel and its Applications ; Coal, Gas, Oil, Spermaceti, &c., and their application to purposes of Illumination, Lighthouses, &c. 433 Engravings and Plates. Vol. 1, in two parts. $9.00.
CLEGG, (S.) Manufacture of Coal Gas. 3d ed., with plates. London, 1 vol. 4to. $10.00.
FARADAY, (M.) Chemical Manipulations. London, 1827. Very scarce. 1 vol. 8vo.
GRAHAM. Elements of Chemistry. 2d ed. $3.
HUGHES. Treatise on Gas Works. 1 volume. 8vo $1.25.
JOURNAL FUR GASBELEUCHTUNG, Munich, per annum, $4.50
JOURNAL OF GAS-LIGHTING, London, per annum, $6
KYAN Elements of Light. 1 vol. 8vo. $1.
LE GAZ. Paris, per annum, $3.50
LE JOURNAL DE L'ECLAIRAGE AU GAZ, Paris, per annum $3.50.
MILLER, (W. A.) Elements of Chemistry, Theoretical and Practical, extensively illustrated. 3 vols. 8vo. London. $15
MURRAY. System of Chemistry. 4 vols. 8vo. London. $15.75.
PARNELL. Applied Chemistry in Manufactures 2 vols. 8vo. $7.50.
PECKSTONE. Manufacture of Coal-Gas. 1 vol. $7.50
TAYLOR. Coal Fields of the World, with plates. A most useful and interesting work to gas makers, coal miners, &c. 1 vol. 4to. $6.00
URE. Dictionary of Arts, Manufactures, and Sciences. 4th ed. London. 2 vols. 8vo. $5.50
WILLIAMS. Treatise on the Combustion of Coal. 1 vol. 4to. London. $3.75.

Also all the new and most approved apparatus for Gas Works, Coal-Oil Works, &c. &c.

For sale by HORATIO EAGLE,
No. 126 Maiden Lane,
Bet. Pearl and Water sts.,
New York

SCIENTIFIC BOOKS.—D. APPLEton & Co., 443 and 445 Broadway, have just published a Catalogue of their large assortment of Books (English and American) in every department of Science and Art, embracing a valuable collection of works on Geology, Chemistry, Mechanics, Engineering the Naval and Military Sciences, and on Steam, Steam Engines, and Steam Navigation, etc., etc., etc., with the dates and prices of each work affixed.

Catalogues remitted to any address on receipt of six cents in P O. stamps.

GAS-LIGHT STOCKS FOR SALE. THREE HUNDRED THOUSAND DOLLARS of Stocks in various Gas-light Companies in the United States, paying from 6 to 12 per cent. dividend, for sale by JOHN B. MURRAY, Rooms of the AMERICAN GAS-LIGHT JOURNAL, N. Y

THE

STERLING GAS-REGULATOR

Improves the Light, and Saves a Large per centage of Gas.

MANUFACTURED BY THE

WHEELER & WILSON SEWING-MACHINE COMPANY.

It is well known that Printers require the best and most brilliant light. In proof of the superiority of these Machines over all others, the following New York establishments are using them, and testify to their excellence:—New-York Times, New-York Herald, New-York World, New-York Tribune, New-York Sun, Journal of Commerce, Courier & Enquirer, Evening Post, The Zeitung, Dispatch, Leader, Scientific American, Advertiser and Spectator, Independent, Daily News, Harper's Monthly and Weekly, Transcript, Mercury, Atlas, Life Illustrated, Albion, Spirit of the Times, AMERICAN GAS-LIGHT JOURNAL, Christian Enquirer, Churchman, Church Journal, Christian Advocate, Christian Ambassador, Christian Intelligencer, Observer, Sunday Times, Sunday Courier.

By order of the New York and Brooklyn Common Councils, these Regulators are now used in the City Halls, Police Stations, Markets, and other Public Buildings in both cities.

They are Warranted by the

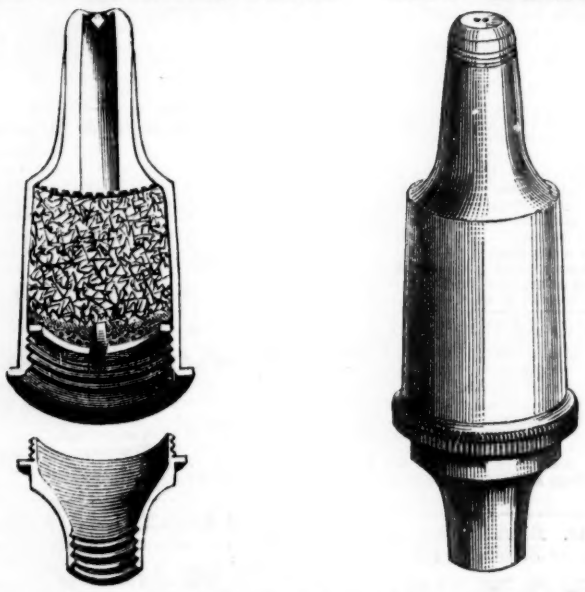
WHEELER & WILSON SEWING-MACHINE CO.,

505 BROADWAY, NEW-YORK,

To keep in order, and always maintain the pressure of the Gas at the lowest point for a brillian light, and economical combustion. They are so constructed that *under no circumstances can the Mercury get into the Meters, or in any way injure them.*

ORNE'S PATENT

FILTER-REGULATING GAS-BURNER.



The attention of Consumers of Gas is invited to this New and Improved Gas-Burner, admitted by all scientific and practical men, who have examined its merits, to be

THE BEST BURNER YET INVENTED,

FOR THE FOLLOWING REASONS, VIZ.:

The Filtering Medium, being perfectly soft and porous, has been found, after careful study and practice, to be the best article for the purpose that can be obtained; and the only one which, while it is a perfect filter, will not clog or fill up by the impurities of the gas. It will burn the most impure gas for months, without requiring to be cleaned or removed.

The quantity of Light or size of the flame can be regulated in a moment's time, by a screw, which operates upon the packing, producing a LARGER FLAME WITH THE SAME PRESSURE, than any Burner or other invention has ever been able to accomplish.

The gas being thoroughly filtered, leaving all impurities in the proper receptacle, burns with a most brilliant and steady flame, consuming all the carbon, and entirely free from smoke.

The Burners are IMPERISHABLE—being furnished with SCHWARZ'S PATENT STEATITE OR LAVA TIPS—manufactured from the purest Steatite.

Indestructible by Acids or Alkalies, unchangeable by heat or cold, not liable to rust or corrode, and far superior in economy and utility to the metallic burners or tips now in use, which rust, corrode, and by the action of heat, enlarge their openings, besides requiring frequently to be cleaned out or replaced. Used with glass shade, it renders a most soft, steady and agreable light for reading, writing or sewing. It is particularly desirable for out-door or street light.

An examination or trial, will convince any person that **Orne's Patent Filter-Regulating Gas-Burner** is the SIMPLEST, MOST SENSIBLE, PERFECT, and ECONOMICAL BURNER EVER PRESENTED TO THE PUBLIC.

For Sale by

S. A. STETSON & Co., 350 Washington-st., Boston, Mass.

And by

HORATIO EAGLE, 126 Maiden Lane, New-York.

STREET GAS-LANTERNS.

Cities and Gas Companies furnished at reasonable rates with Lanterns, Iron Frames, Grazed Complete or Separate. Also, Fancy Lanterns, for Hotels, Restaurants, Theatres, Telegraph Offices, Churches, and other Public Buildings. Having been in the business for many years I fully understand the manufacture of Gas Lanterns, and with the aid of machinery can make the parts cheaper than any other manufacturer. Orders from a distance solicited, and executed promply.

A. C. PARRY,

31 Race Street, Cincinnati, Ohio.

ENAMEL DIALS FOR GAS AND WATER METERS.

BOTTOMLEY & HINES, MANUFACTURERS, West Philadelphia, Pa.

The best, therefore the cheapest for Gas and Water Meters and Engineers' Indicators.

These Dials are particularly adapted to all purposes where gas, gas-vapors, or acids, are present. Also, Watch and Clock Dials of every description, from any size up to 14 inches diameter.

The undersigned embrace this opportunity of returning their thanks to the gas-meter manufacturers throughout the United States, for the very liberal patronage they have received for the past ten years, during which they have been established in Philadelphia, which has placed us ahead of all competition. Our sales for the past year have been far greater than we could have anticipated, with the prospects of a steady increase. Our constant aim has been, and will be, to adopt all improved processes of manufacture, combining improvements in quality with reduction in price. All Dials made by us are warranted to be as represented, and of the best materials and workmanship, which will recommend them to all parties wishing the very best. Circulars sent free by mail, or on application.

We are the appointed agents for HUNTER, SHEARMAN & CO.'S make of BRASS PINION-WIRE for Gas-meters, which we believe is equal to the best.

KIDDER'S GAS-REGULATOR!!!

25 PER CENT. SAVED.

CERTIFIED BY SCIENTIFIC MEN TO BE THE

ONLY RELIABLE GAS-REGULATOR.

The undersigned Sole Agent for the sale of this valuable REGULATOR, is prepared to supply the Trade upon very favorable terms.

Agents Wanted in the Principal Cities and Towns throughout the United States and the British Possessions in North America.

As a Regulator and Economizer of Gas, it has received the highest testimonials. See advertisement in AMERICAN GAS-LIGHT JOURNAL, Vol. 2, No. 20, page 128.

HORATIO EAGLE, 126 Maiden Lane,
Between Pearl and Water streets.

JOHN RUSSELL & CO.,

PATENT TUBE MAKERS,

THE OLD TUBE WORKS, WEDNESBURY, AND THE ALMA WORKS, WALSAL, STAFFORDSHIRE

69 UPPER THAMES-ST., & 5 CHARLES-ST., SOHO, LONDON;
AND 35 GRANBY-ROW, MANCHESTER, ENGLAND.

The original Manufacturers of WROUGHT-IRON GAS TUBES, and the Inventors of the Lapwelded Tubes for Locomotive and Marine Boilers. All kinds of TUBES and FITTINGS, whether for Gas, Steam, or Water. Galvanized and Composition Tubes. Chandeliers, and every kind of Brass-work for Gas and Steam.

STOCKS, DIES, AND TAPS OF ALL SIZES. CAST IRON PIPE AND GAS-METERS.

ALL GOODS WARRANTED.

PHILLIPS & ALLEN,

Pensylvania av., above 22d st., Philadelphia.

GASOMETER RIVETS.

Every kind of Rivets used in Gasometers.

GENGEMBRE'S PATENT

NON-FREEZING AND NON-EVAPORATING GAS-METER FLUID.

By the use of this Fluid, the WET GAS-METER of ordinary construction is rendered the most perfect and most reliable Gas-Measuring Instrument ever offered to Gas Companies. In winter the Meter will continue to work equally well, *however exposed it may be*; and in summer, the level of the Fluid remaining constant without refilling, the measurement of the Gas will be both uniform and constant.

The use of this Fluid is both easy and economical, and Gas Companies desirous of using it, will be licensed on liberal terms. For further particulars, and certificates of parties having used the same for over three years, and for city rights, apply to

A. DOISY, Box 1180,
General Agent and Attorney for GENGEMBRE'S PATENT.

N. B.—No Sales of Territorial right, or Licenses for using my Patent will be valid, without being ratified by my Signature, as I have no Agent authorized to execute the same.

H. P. GENGEMBRE, PATENTEE,
Box 48, Alleghany City, Penn.

OFFICIAL.

OFFICE LIGHTHOUSE BOARD.

U. S. Treasury Department, Washington, D. C., Oct. 22, 1860.

Sealed Proposals will be received at this office until 12 o'clock M. on Monday, Dec. 3, 1860, for one

IRON LIGHTHOUSE FOR CAPE CANAVERAL, FLORIDA.

Drawings and specifications may be obtained at the office, or at the following named places:

New York city—No. 43 Cedar street.
Boston, Mass.—No. 1 Commercial wharf.
Philadelphia—Cor. of Girard and Twelfth-sts.

By order of the Lighthouse Board.

Capt. WM. F. SMITH,
Engineer Secretary.

TO CONTRACTORS.—Niagara Falls Hydraulic Canal.—

Sealed proposals will be received at the office of Horace H. Day, at Niagara Falls, N. Y., by the Engineer of the above work, until the 10th day of November inst., for excavation, masonry, bridging, guard gates, &c. Plans and specifications may be seen at the above office. Mr. Day reserves the right to accept or reject any or all of the proposals, as he may deem for his interest.

H. L. SOUTHARD, Engineer.

PATENT GAS-BURNERS.—Jas

McGLENSEY, No. 111 South Eighth streeet, PHILADELPHIA, Manufacturer of Gas-Burners, Meters, &c., respectfully calls the attention of Book-Binders, Chemists, Druggists, Copperplate Printers, Brush-Makers, Case and Cabinet-Makers, Hotels and Restaurants, to his Patent Gas-Stove Heating Apparatus, as being particularly adapted to their wants—preventing all soiling and injury to the vessels or substances heated, is entirely free from smoke or smell, and highly economical. He refers to the following persons, who have the Apparatus in use:

BULLOCK & CRESHAW, Nos. 103 & 105 N. 6th-st.
T. S. WIEGAND, Chemist, 15th & Race-st.
F. A. GENTHO, Analytical, 33 Walnut-st.
Jos. LIPPINCOTT, Book-Binder, cor. 4th and Commerce-sts.

FOR LIGHTING R. R. CARS

and Steamboats with Gas.—The whole process of filling the holders of a train requires but three minutes. Where the cars can stand on the track for thirty minutes, the gas is passed directly from the pump through the pipes and into the holders, thus doing away with the reservoir entirely; this may be done at either end of the road. This apparatus has been used on the New Jersey railroad nearly two years and for more than a year on the Camden and Amboy R. R., and the Philadelphia and Reading R. R. The Camden and Amboy R. R. Co. have the apparatus on all their cars, and on two of their Ferry Boats. The uniform flow of gas is secured by a Patent Regulator. This apparatus is also adapted to Steamboats making trips of not over three or four days in length, and to the head-lights of Locomotives.

It can be seen in operation at the Rooms of the AMERICAN GAS-LIGHT JOURNAL. For Engravings, see AMERICAN GAS-LIGHT JOURNAL for June, 1860, page 245. Apply to the

NEW YORK CAR & STEAMBOAT GAS CO.,
No. 117 Fulton street, N. Y.

BUTLER'S PATENT PORTABLE

Gas-Works are designed for Dwellings, Churches, Factories and Country Villages, as well as for large consumers in cities. They make gas from CRUDE ROSIN, and are WARRANTED to make as rich an article, at less than ONE-HALF the cost of that made by the old method in Portable Gas-Works, and at one-third the average price of Coal-Gas as sold in cities. Great savings in expense of light GUARANTEED to large consumers.

Works of all sizes furnished to suit applicants. Mains, Service and Distributing Pipes put in. Also, a large assortment of Gas-Chandeliers, and other fixtures, always on hand, at the lowest prices.

The MANSION HOUSE, BROOKLYN, with 250 burners in constant use, make their own gas with my apparatus, with results as stated above. This, (with a small one at my store,) can be seen in operation by application at my office, where descriptive pamphlets, with the names of numbers who are using them, will be furnished.

JOHN BUTLER,
Nos. 112 Fulton & 15 Henry-st., Brooklyn, N. Y.